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NEWS SUMMARY

GENERAL

Tories axe 57 quangos

Michael Heseltine, Environment Secretary, announced the disbanding of 57 organisations in the first large-scale pruning of quangos.

But the scrapping of almost half the Department of Environment-sponsored quangos—quasi autonomous non-governmental organisations—will result in an immediate annual saving to the public purse of only £1.4m.

Mr. Heseltine named a further batch of 21 quangos to be scrapped "in due course." Most of these are New Town bodies which are, in any case, due to be wound up when their powers are transferred to local authorities. Page 6

Swedish election result tentative

Olof Palme, the Swedish Social Democrat leader, will not know until tomorrow whether he can return to the Prime Minister's office from which he was ousted three years ago. About 38,000 uncounted postal votes and 2,000 ballot papers from Swedes abroad may still deny him the narrow victory he appeared to have won in Sunday's general election. Page 2; Editorial comment Page 16

Death claim

Afghanistan's former President Tarakki an dtwo sacked Cabinet ministers may have died in a gun battle inside the Presidential palace two days before Tarakki's resignation was announced, according to diplomats in Kabul. Page 3

Treasure probe

The UN diplomat in charge of aid to refugees in Cyprus offered to resign after police seized valuable antiquities from his Nicosia home. But the UN High Commissioner for Refugees in Geneva ordered a full inquiry before reaching a decision.

Peking poster call

The staff of China's most radical unofficial magazines, Exploration, stuck a poster on Peking's Democracy Wall urging the Government to avoid further clashes with Vietnam or the Soviet Union.

Race row fears

A bus boycott by thousands of black workers in Natal, protesting against fare rises, spread to the outskirts of Durban, with fears that the peaceful demonstration could easily become violent.

Police taunted

Jacques Mesrine, the elusive French criminal, taunted police by supplying photographs of his latest victim,a journalist, to the newspaper, Le Matin, in aPris. They showed the man lying naked an scarred, with fresh bullet wounds in a disused quarry shaft.

Typhoid suspect

Police were still searching for Yunus Karakukulah, also known as Mustapha Yelderim, a Turkish chef who disappeared from a South London kebab house after tests for typhoid. Further tests and needed to give him a clean bill of health.

Briefly . . .

Customs men and police seized 1½ tons of cannabis resin worth nearly £2m after a sea chase off the Cornish coast.

London Transport reached agreement with the rail unions on the introduction of one-man train operation on two of its Underground lines. Back and Page 6

U.S. Navy vessels landed 65 Vietnamese at Subic Bay in the Philippines and aircraft spotted nine more adrift in an open boat.

Cuba released the last four U.S. citizens, held on political charges since the mid-1960s.

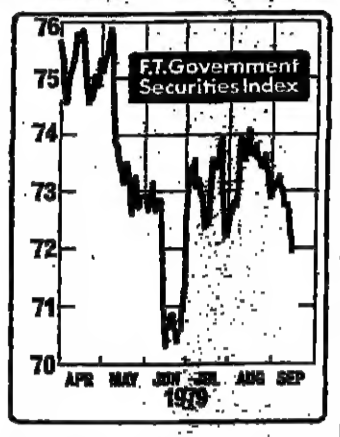
BUSINESS

Gold up $8¾; Equities subdued

● GOLD rose $8¾ to a record close in London of $353¾.

● EQUITIES were subdued, but rallied slightly near the close and the FT ordinary index closed 1.7 down at 466.0.

● GILTS weakened, with losses of ¼ in longs. The Government Securities index fell 0.49 to 71.94.



● STERLING fell sharply closing 1.7 cents down at $2.1515 and its trade-weighted index fell to 68.4 (69.3). The dollars' index was unchanged at 85.0.

● WALL STREET was 2.61 up at 883.11 just before the close.

● ITALIAN inflation has returned to an annual rate of 15 per cent with retail prices rising by 1 per cent in August, according to official statistics. Page 2

● EUROPEAN COMMISSION is preparing anti-dumping cases against both Japanese and East European manufacturers of bearings. Intensive monitoring of bearing prices in Western Europe has shown a 35 per cent margin on Japanese roller bearings entering the EEC. Back Page

Chrysler chief seeks retirement

● CHRYSLER chairman, Mr. John Riccardo, has said he will ask the company's board to grant him instant early retirement so as to improve the chances of the company securing Federal loan guarantees to stave off the threat of bankruptcy. Back and Page 4

● BP CHEMICALS chief has warned that profits could be hit hard by a flood of cheap U.S. petrochemical imports coming on to the European market. Page 6

● GUEST KEEN AND NETTLEFOLDS is negotiating to buy from Unilever the French distributor of industrial and motor components, Unigep, marking GKN's entry into the automotive business on the Continent. Back Page

● RENAULT group's engineering division has won a FFrs 230m (£24.27m) contract to build a network of 23 lorry service stations in Saudi Arabia. Page 4

● L'OREAL, the French cosmetics company, has launched a second bid for the U.S. company Helena Rubenstein. Page 23

● MERRETT DIXEY Syndicates, the Lloyd's underwriting agent, is to stop acting for the troubled Sasse syndicate. Page 6; Reforms likely Page 16

COMPANIES

● UNITED BISCUITS pre-tax profits for the 28 weeks to July 14 fell from £18.6m to £16.1m on sales up from £362.78m to £402.84m, but directors expect a better second half. Page 18 and Lex

● SIMON ENGINEERING raised pre-tax profits for the six months of 1979 from £6.31m to £7.25m on turnover of £133.97m (£109.34m). Page 21

CHIEF PRICE CHANGES YESTERDAY

(Prices in pence unless otherwise indicated)

RISES		
Excheq. 3pc 1981	£90⅛	+ ⅛
Automated Sec.	182	+ 11
Cope Sportswear	42	+ 4
Crouch Group	88	+ 5
Decca	330	+ 55
De La Rue	535	+ 10
Howard Wyndham A	23	+ 3
Irish Distillers	90	+ 3
Lambert Howarth	54	+ 5
Tavener Rutledge	46	+ 4
Woodhead (J.)	104	+ 3
Anglo Amer. Crpn.	412	+ 12
Eagle Crpn.	23	+ 5½
Falcon Mines	350	+ 20
Marievale	121	+ 5
Oilmin NL	68	+ 16
Robe River	86	+ 11
Swan Resources	29	+ 8
Thiess Hldgs.	290	+ 25
Western Mining	200	+ 7

FALLS		
Excheq. 11¼pc '84	£95¾	− ⅜
Exchq. 13pc '13-17	£99⅞	− ⅜
Assd. Fisheries	57	− 4
Barclays Bank	422	− 6
Boots	189	− 5
Dowty	307	− 5
Farnell Elect.	255	− 11
ICL	480	− 16
Ladbroke	181	− 4
Ransomes Sims Jffs.	138	− 5
Sykes (H.)	60	− 5
Oil Exploration	368	− 10
RTZ	293	− 9

New talks today in bid to end engineering dispute

BY NICK GARNETT AND ALAN PIKE

The first formal negotiations for more than two months in the national engineering dispute take place today after preliminary discussions yesterday at the Advisory Conciliation and Arbitration Service.

The two sides agreed in those discussions on an agenda for today's meeting, which involves talks again under the auspices of ACAS, on minimum pay rates, ways of implementing any new agreement and the "length of working time."

There were considerable indications that the unions might be prepared to take a more flexible view on shorter hours than the demand for a 39-hour week in the claim.

Union officials emphasised that there must still be some form of specific reduction in working hours, and that an offer of improved holidays, already part of the claim, would be insufficient to reach a settlement on this matter.

Employers have so far been adamant that they will not reduce the working week.

The unions considered that the employers' apparent decision not to make endieng of industrial action a pre-condition for further negotiattions was a step forward.

There were signs that negotiators for the Engineering Employers' Federation might tie some conditions on further industrial action to any new offer they might wish to make today. This could be a further source of delay to a settlement.

Rolls-Royce carried out its threat to shut all its nine plants and lay off its total 30,000 manual workers until the industry returns to normal working. This followed overwhelming adherence by workers to the first day of the third two-day national strike.

The company said it could not operate any of its plants commercially because of the dispute, and Mr. Dennis Head, managing director of the aerospace division, said the company had "very real fears" of losing orders to competitors.

Today's strike again received overwhelming support in almost all areas of the country. Groups of workers who decided to defy the strike, including those at Plessey's Swindonplants, were relatively small.

After yesterday's talks Mr. Terry Duffy, president of the Amalgamated Union of Engineering Workers said the position looked more hopeful than at the weekend.

The question of a 39-hour week was now "in the melting pot." He referred to the need to secure a 46-hour reduction in the yearly "working time."

In his address at the opening of the AUEW national conferenc ein Eastbourne before the ACAS talks yesterday, he again stressed the need for a reduction in working time.

"It is imperative that we adopt the simple trade union principle of ensuring that manhours available are shared whereever possible.

"It would appear that we are leading the struggle to maintain a fair and equitable society, but it also seems that the employing class are determined to intro duce new techniques with no reduction in working time."

On pay, the unions have sought a minimum craft rate of £80, and been offered £70 and pro rata increases for other rates. Union officials believe employers might be prepared to offer £73 or £74.

AUEW conference, Page 8

Big shortfall in Britain's energy supplies predicted

BY RAY DAFTER, ENERGY CORRESPONDENT

BRITAIN'S energy supply problems towards the end of the century will be far greater than previously forecast, according to a new Government report.

A fresh review of the energy balance shows that by the end of the century the UK could be importing the equivalent of 105m tonnes of coal a year.

This is a ignificant shift from the Government forecast made only last year that indicated Britain could still be energy self-sufficient in the year 2000. It was thought that even on the worst assumptions imports would not rise above the equivalent of 45m tonnes.

The new figures are presented by the Energy Department in its evidence to the public inquiry into the National Coal Board's plans to sink three large mines i nthe Vale of Belvoir, in North-east Leicestershire.

The Department warns that without early and continuing investment in new coal mining capacity, colliery production in 1990 would fall below the current level of around 120m tonnes a year. Towards the end of the century output could be as low as 80m tonnes.

It is thought that the Government's more cautious view of coal industry expansion is a major reason why it sees Britain's domestic energy supply in the year 2000 falling below the levels foreseen in the Energy Policy consultative document, published by the Energy Department last year.

The 1978 Green Paper reported that UK energy demand could be between 450m and 560m tonnes of coal equivalent a year in 21 years. The Energy Department's submission to the Belvoir inquiry indicates that the demand might not rise above 445m to 515m tonnes of coal equivalent.

The new forecasts are much more pessimistic over domestic supplies of fuel. The Department doubts whether indigenous production can supply more than 385-410m tonnes of coal equivalent as against the 475-515m tonnes foreseen in the Green Paper.

It is thought that about half of the drop in forecast output is accounted for by lower coal production; the other half from less-than-expected crude oil output.

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UK ENERGY BALANCE IN THE YEAR 2000
(m tonnes of coal equivalent)

SUPPLY: 1978 estimate—	
Coal	170
Nuclear/hydro	95
Natural gas	50-90
Indigenous oil	150
Renewable sources	10
Total	475-515
SUPPLY: 1979 estimate—	
Total	385-410
DEMAND: 1978 estimate—	
Total	450-560
DEMAND: 1979 estimate—...	
Total	445-515

Source: Energy Dept.

Telephone charges to go up

BY JOHN LLOYD

TELEPHONE charges will rise in two stages over the next four months, with the 2p coin box charge going up to 5p.

The first stage takes effect from October 29. It will involve charges for connections, telex charges, and charges for private circuits. The rise in connection charges will be weighted toward business users.

The second, and major, stage, takes effect from January 1, and will include call charges, rentals, and coin box tariffs.

The rises will be the first for most services since 1975. They are designed to cover the effects of inflation since then, and are not related to the recent industrial action by computer operators, which prevented telephone bills being sent out, and adversely affected Post Office revenue flows.

The rises will be considered by the Post Office Users' National Council and will not be officially announced for some weeks. They have been expected for some time, but there is certain to be some discussion on whether the October increases are "major," in view of the commitment by the Post Office not to make major rises this year.

The main October rises are:

● Charges for new exchange lines will go up from £45 to £55. The charge for taking over an existing installation will go up from £5 to £8.

● Connection charges for apparatus will go up on average by 53 per cent, with the sharper increases—up to 120 per cent—charged on business apparatus.

● Telex charges will go up by 20 per cent in an attempt to make the service profitable. Last year, it lost £14.3m.

● Private circuits, where substantial losses have been made on the shorter distance circuits, will rise by a maximum of 50 per cent.

These, together with other minor increases, will bring in some £14m in the current year, and £81m next year.

The main January increases are:

● Call charges will go up from 3p to 3.5p per unit, an increase of 17 per cent. The higher unit fee will apply with existing time allowances.

● Rental charges for an exchange line will go up by £6 to £45 a year for a business line, and by £5 to £38 a year for a residential line. In spite of the increases, rentals will continue to run at a loss.

● Apparatus rentals will go up by a maximum of 50 per cent,

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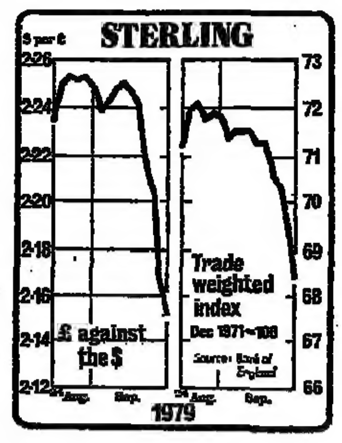

Sterling slide continues

By Peter Riddell, Economics Correspondent

STERLING fell sharply yesterday against other leading currencies fo rthe sixth trading day in succession. The authorities in London appear fairly relaxed about the decline and no action is being considered.

There is, however, some concern about the size of the movements during the day, as opposed to the extent of the overall change, and there has been regular smoothing intervention to allow commercial business to be done in as orderly a way as possible.

The pound at one stage yesterday had fallen by more than four cents in a few hours to a low of $2.1260, more than 12 cents lower than at the beginning of last week.

Dealers reported buying after the New York opening and in two-day trading the rate rose to close 1.70 cents down at $2.1515.

The trade-weighted index touched a low of 67.8 at noon before closing 0.9 points down at 68.4. The fall since early last week was 4¼ per cent and 7½ per cent since July.

These falls have only partially offset the big mid-summer appreciation and the pound is still higher than it was on the Budget day, June 12.

The recent decline can be explained by a delayed reaction to the earlier widespread feeling that the pound had risen to too high a level coupled with the more imediate impact of a narrowing in the interest rate gap between London and other centres, especially New York.

There has also been some switching into D-marks caused by speculation both about a realignment of currencies within the European Monetary System and about early UK participation. It is highly unlikely that sterling will join in

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£ in New York	Sept. 14	Previous
Spot	$2.1640-1650	$2.2005-2020
1 month	0.47-0.40 dis	0.42-0.38 dis
3 months	1.07-1.00 dis	0.99-0.92 dis
12 months	3.50-3.40 dis	3.40-3.30 dis

Carrington in move to save Rhodesia talks

BY BRIDGET BLOOM AND MICHAEL HOLMAN

LORD CARRINGTON, Foreign Secretary, will today begin bilateral talks with the two opposing Rhodesia delegations in an effort to save the Lancaster House constitutional talks from paralysis.

He has formally decided to open separate talks with the two rival groups because preliminary discussion yesterday of the main constitutional proposals is now deemed complete.

However, the main reason for his decision appeared to be the effect on the conference of the growing split between black and white members of the Rhodesian Government delegation which last night threatened to deadlock the whole settlement attempt.

The talks entered their second week yesterday with two full working sessions, but Bishop Abel Muzorewa's delegation, though present, took no part at all in the afternoon deliberations.

The critical problem is that Mr. Ian Smith, the former Rhodesian Premier, still insists that a white parliamentary veto, accompanied by dominance of the public service commissions, is the only effective safeguard for the white minority in a new independence constitution.

It is increasingly clear that this view is shared neither by Bishop Muzorewa, nor by most, if not all, of the other black members of his delegation.

Failure to resolve this dispute in spite of intensive discussions over the weekend left the Salisbury delegation playing a muted role at yesterday's talks.

Safeguards

The Foreign Secretary, in both the morning and afternoon sessions, repeated British objections to key aspects of the Rhodesian settlement constitution. He opposed particularly the veto accorded the 28 while members of the 100-seat Parliament and the powers whites enjoy in the public service commissions.

No other African independence constitution contained such provisions, although Lord Carrington acknowledged that there should be minority safeguards including white parliamentary representattion and a Billl of Rights.

He also challenged features of the Patriotic Front's outline constitutional proposals. particularly their failure to provide for white members of Parliament, which he believed was necessary in Rhodesia's special circumstances.

However, Lord Carrington's remarks clearly failed to reassure white members of Bishop Muzorewa's delegation, and the lunch break between sessions apparently did little to resolve the delegation's internal differences.

Morning and afternoon session were both concerned with a point-by-point examination of the likely areas of disagreement on a new constitution. But it was clear that without the participation of the Salisbury delegation, no real progress could be made.

Bishop Muzorewa's delegation wanted the conference to move to bilateral talks with Britain, partly to keep the internal disensions out of the public eye, but also to allow Mr. Smith to test for himself Britain's determination to divest whites of their political veto.

Concessions

Yesterday's session for the first time covered issues of constitutional substance. It emerged, for example, that Britain will consider the Patriotic Front's proposals that Rhodesia should be a republic with an executive president. Other areas of certain future conflict were the role of whites in Parliament and in the service commissions.

The lesson from yesterday's session was apparently that no real progress is posible until the Salibury delegation decides what concessions it is prepared to make.

They key question last night was whether or not Mr. Smith's hard line views are fully shared by his white colleagues both in London and in Salisbury.

Mislead

● The presence of Mr. Smith at the Battle of Britain commemorations at the weekend was "regretted" last night by Mr. David Steel, Liberal Party leader.

He said: "It was likely to mislead us as to what it was all about."

"It was not just about our side meeting the others. It was about the maintenance of a free and democratic society, and against the threat of takeover of our country by an alien minority imbued with ideas of their own superiority.

"Sadly, it was Mr. Smith's lack of atachment to these principles which led his country first into the treachery of UDI and then into the tragedy of the present bloody war there."

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£150m EEC loans will boost jobs, investment

By Guy de Jonquieres, Common Market Correspondent in Brussels

THE FIRST loans from the EEC's new 1bn units of account (£640m) lending facility, intended to aid investment and reduce unemployment in the community, were announced here yesterday.

Britain will receive £66.3m of the almost £150m disbursement in the initial rounds of loans. Most of it £50m, will be lent to the Electricity Council to help finance a £420m hydro-electric power station at Dinorwic, North Wales.

The remainder, £16.3m will be loaned to Lothian Regional Council to help finance projects worth £76m to improve water supplies in Edinburgh and Midlothian and to reduce pollution in the Firth of Forth. Both loans have a 15-year term.

Ireland will receive £58m towards electricity, water, road-building and telecommunications projects. The rest of the loans, worth L45bn will be made towards water supply projects in southern Italy.

The lending facility, whose official title is the New Community Instrument for Borrowing and Lending, is intended to supplement financing available from other EEC sources in selected sectors.

It was first proposed by the European Commission in April, 1977. In approving it, the Council of Ministers directed earlier this year that the first tranche of loans, worth 500m units of account should be for infrastructure development and energy projects.

Borrowings to fund the loans will be raised on the capital markets by the commission, which rules on the eligibility of loan applications. Interest rates and other terms applying to loans will be comparable to those required by the European Investment Bank.

Finns plan balanced budget

By Lance Keyworth in Helsinki

THE FINNISH budget for 1980 promises something for everyone, but not enough to satisfy anyone except perhaps the farmers. It is balanced at FMKS 48.9bn (£5.7bn) with the aid of FMKS 5.5bn in loans which the Government proposes to raise at home and abroad.

The main target is to reduce unemployment from the current 6.5 per cent to a maximum of 5 per cent in 1980. For this purpose, Mr. Ahti Pekkala, the Minister of Finance, proposes to use, directly and indirectly, about a sixth of total budgeted expenditure.

The need to keep inflation down to its present level of 7.5 per cent is also stressed. In order to encourage the unions to agree moderate wage settlements at the turn of the year, personal income tax, wealth tax and deductibles are to be adjusted by 7.5 per cent to match inflation.

The turnover tax concessions for productive investment are to be prolonged until the end of 1980.

These reliefs will be neutralised by the increase in employees' pensions premiums to be paid by employers, a 7.5 per cent increase in railway tariffs and a rise in excise tax on liquid fuels.

The economic forecasts attached to the budget indicate a distinct deceleration of growth rates in 1980. Gross national product will grow by 4 per cent against a 1979 estimate of 7 per cent, exports by 3 per cent in volume and 8 per cent in value, against 9 and 15 per cent forecast for this year. The corresponding figures for imports are 12 per cent (against 15) per cent. 21 (against 32) per cent.

The balance of trade is expected to show a deficit of FMKS 2.5bn (£290m) compared with a surplus of FMKS 1.4bn (£162m) in 1979.

APEL TELLS WASHINGTON TO SPEED UP OFFSET ORDERS

West German warning on AWACs

BY ROGER BOYES IN BONN

THE controversial airborne warning and control system (AWACs) scheme for NATO could be doomed unless Washington speeds up its offset orders to German industry, Herr Hans Apel, West Germany's Defence Minister has warned the U.S.

Herr Apel said in a radio interview that he intended to meet Mr. Harold Brown, U.S. Defence Secretary, and Congressional leaders at the end of September, to discuss the future of the scheme.

The AWACs aircraft is in effect, a converted Boeing 707 airliner. NATO plans to use it to create a permanent airborne radar umbrella over Western Europe, to warn against a possible Warsaw Pact attack.

A $1.88bn (£839m) agreement on the scheme was reached last year after lengthy negotiation between the NATO allies. Under the accord, the U.S. and West Germany agreed to pay almost two-thirds of the total cost.

But in return for German participation, the U.S. promised it would place orders for a new telephone system for its forces in Germany and would buy about 9,000 vehicles

Congress has yet to approve the offset element, and the U.S. has so far only placed orders for about 300 vehicles.

The delays have irritated the Christian Democrat opposition which has threatened to block the DM100.4m (£24.6m) funds allocated for the scheme in 1980 unless some progress is made on the offset orders.

The Government now appears to have come round to the opposition's view, and Herr Apel clearly intends to put substantial pressure on Washington. A blocked allocation for AWACs would have the effect of freezing the whole programme, which envisages the purchase of 18 aircraft by the NATO countries.

Herr Apel made clear that a freeze could eventually jeopardise the long-term future of AWACS. The offset component had played an important part in persuading the Germans to take on a 30.7 per cent participation.

Even so, doubts persist about the overall costs of AWACs—including spares, training support and operation. The Iranian cancellation of seven AWACs aircraft has increased unit costs for Boeing which has had to shorten its production line.

Herr Apel and Herr Dietrich Genscher, West German Foreign Minister, yesterday held talks with M. Henri Simonet, the Belgian Foreign Minister. The Germans are anxious to discover how ready the Benelux States would be to act as a base for future U.S.-supplied nuclear weapons capable of striking the Soviet Union.

The attitude of the Benelux countries is particularly important for West Germany because although it wants a counter-balance to the Soviet nuclear weapons build-up (especially the SS-20s), it is reluctant to have "Eurostrategic" weapons—nuclear missiles capable of reaching the USSR—stationed on its soil.

It has made clear that other West European countries will also have to accept the stationing of these missiles before it makes a commitment.

No immediate comment on the outcome of the talks was forthcoming, but the issue is so delicate for both Bonn and the other West European countries that a firm decision is unlikely to be announced before the NATO summit in December.

Officials stress that meanwhile, intensive diplomatic contacts will have to be made between Bonn and its allies.

The rapid rise of a new Christian Democrat star

BY JONATHAN CARR IN BONN

HE HAS the respect of Chancellor Helmut Schmidt—but belongs to an opposing political party. He quotes Mrs. Margaret Thatcher's conservative philosophy with approval—but plays tennis with a local trade union leader. He made a career in local and state administration—but urges the individual, above all, to stand up against bureaucrats.

Who is he?

Even many West Germans would be hard put to give an answer. Which is odd, since this apparently contradictory figure has already played a key role in narrowing the differences between his own Christian Democrat party (CDU) and its Bavarian ally, the Christian Social Union (CSU) led by the abrasive Franz Josef Strauss.

He is, in fact, Herr Lothar Späth, Prime Minister of the state of Baden-Württemberg for just over a year, at age 41, one of a new generation of German provincial leaders. It seems safe to predict that whatever happens to Herr Strauss, who is opposition candidate for the Federal Chancellorship in next year's elections, Herr Späth has a bright future.

The contrast between Herr Späth and his predecessor, Herr Hans Filbinger, could hardly be more clear cut. Herr Filbinger was the prototype of a German "Landesvater" — guiding his people with a skilled hand but with some apparent condescension from his office in the hills above Stuttgart, the state capital.

It is often said that Herr Filbinger stepped down because of—the discovery of his activities as a Naval judge under the Nazis towards the end of the Second World War. It would be more correct to say that he lost the state Prime Ministership because he seemed unable to bring himself to show remorse for his war-time actions and to ask for public understanding.

Herr Späth retains the same office—but there the similarity with Her Filbinger seems to end. Here is no lover of ceremony or discursiveness but a pragmatic political manager, small, dapper, with facts and figures on instant recall and delivered at top speed.

He has not only removed many of Herr Filbinger's old guard but has attacked a jumble of laws and regulations he feels are no longer needed.

The key aim must be to drive back the role of the state, but that can only be achieved if people, instead of crying for more cash or facilities from above, are prepared to take on more responsibility. This is the message he has been driving home in a series of whistle-stop visits throughout the state, and through radio and "phone-in" campaigns.

> The 41-year-old Prime Minister of Baden-Württemberg could emerge as king-maker, if not king, of the opposition

Not everyone is happy about the aims or the style. A small booklet inspired by Herr Späth, telling administration officials how they could improve relations with the public, aroused ire among many to whom it was addressed. But then Herr Späth should know what he is talking about—as former head of the finance administration in the provincial town of Bietigheim, until he took up management posts in construction businesses in Stuttgart and Hamburg.

He only entered the State parliament in 1968 so his progress had been quick indeed—chairman of the CDU parliamentary party for six years from 1972, State Interior Minister in February last year and elected state Prime Minister in August, defeating a candidate whose name was certainly more widely known, Herr Manfred Rommel, Lord Mayor of Stuttgart and son of the war-time field marshal.

There are also some in his own party who wonder whether there is not just a bit too much pragmatism at the expense of charisma, and who look askance at Herr Späth's evidently excellent relations with many Social Democrat deputies, who are in opposition to the Christian Democrats in the State parliament.

Opinion polls appear to give the lie to these fears. They indicate that Herr Späth already has the approval of a majority of Baden-Württembergers — a happy augury for him in the State's election next spring. If the polls are confirmed and Herr Späth is handsomely confirmed in office, then he will be in an exceptionally strong position at national level too—virtually independent of the outcome of the Bundestag elections in the autumn of next year.

How so? First, because Baden-Württemberg is a state so powerful economically and financially that it rode the last recession better than most—indeed it would almost be true to say that, like Daimler-Benz, its most famous industrial enterprise, it seemed to shrug the recession off. This gives the state, and thus its leader, a relatively strong influence at national level

Second, the Christian Democrats in Baden-Württemberg have one of the strongest of the State party organisations, and one of the most successful. Bluntly, there is precious little that the party at national level could do against the will of the Baden-Württembergers—the more so given the current absence of a really strong party leader at CDU national headquarters in Bonn, which in turn helped open the way to Herr Strauss as the opposition's candidate for Chancellor.

Third, the State's strength and geographical position next door to Bavaria (with which it has much in common), has given Herr Späth a key position between Herr Strauss's Christian Social Union—which exists only in Bavaria—and Christian Democrats countrywide.

It is no secret that one of the decisive meetings on the vexed issue of whether Herr Strauss should lead the combined CDU-CSU into next year's Bundestag election—took place in Stuttgart. It is also true that Herr Späth has all along been at pains to ensure that, whatever happens, the two parties should not angrily go their separate ways, as has at times seemed possible.

Herr Lothar Späth . . . pragmatic, political manager

So if Herr Strauss becomes Chancellor late next year, it will be thanks to a united strategy over which Herr Späth has had an important influence. Herr Späth gives the Bavarian leader "a real chance."

Either, he says, Herr Strauss will push Chancellor Schmidt into adopting policies—for example, on defence and nuclear matters—which the Chancellor's own Social Democrat Party will not accept. Or else Herr Schmidt will yield to party presusre and Herr Strauss will have a good chance of exposing the Government's policy failures.

That, at any rate is the theory. Herr Späth naturally did not suggest that the Chancellor might well steer a reasonable policy course and carry his party with him. But even if Herr Strauss loses, Herr Späth will hardly be blamed. On the contrary, it is likely that Herr Späth's own state success will stand out sharply as the Christian Democrats set about the task of finding a new national leader to replace Herr Helmut Kohl, their present party chairman, That does not necessarily mean he will become CDU "king"—but he will be perfectly placed to act as "king-maker."

Parties battle to win union members' votes

BY OUR BONN STAFF

THE WEST GERMAN Social Democratic Party (SPD) and the opposition Christian Democrats are stepping up their efforts to attract the trade union vote before next year's Bundestag election campaign.

In a move to woo union moderates Herr Heiner Geissler, General Secretary of the Christian Democrats pledged at the weekend that the opposition parties would support a "pluralistic" union movement. The Christian Democrats have committed themselves to the right of unionists to choose the union to which they want to belong and have expressed opposition to the closed shop.

This is an explicit challenge to the authority of the Deutsche Gewerkschaftsbund—the trade union federation. Herr Geissler's position is also in sharp contrast to that of the Social Democrats who only last week reaffirmed their strong links with the union movement at a congress attended by most senior party leaders and Herr Heinz-Oskar Vetter, the federation's chairman.

Herr Geissler's frank commitment to union pluralism was apparently prompted by the fear that union support for the Christian Democrats would be eroded by the nomination of Herr Franz Josef Strauss, leader of the Bavarian based Christian Social Union (CSU) as the official rival to Chancellor Helmut Schmidt at the 1980 polls.

The SPD is the most influential party in the union movement but a strong minority (28.4 per cent) of unionists also votes for the CDU-SCU compared to 57.8 per cent for the SPD. The fear is that these moderate voters could be deterred from support of the CDU because of some of the more extreme positions adopted by Herr Strauss.

Clearly the rallies held by Herr Strauss in the Ruhr region during the weekend can hardly have reassured the opposition parties. In meetings in Cologne and Essen on Saturday, Herr Strauss had to curtail his speeches after several thousand demonstrators—including some SPD politicians and unionists—chanted protests and pelted the CSU leader with eggs. The Christian Democrats are demanding an explanation from the SPD.

The SPD meanwhile appears to have been consolidating its links with the union movement and the Government recently succeeded in convincing the union leadership that there should be no immediate wage supplements to compensate for the recent oil price rises.

Dutch Budget deficit 'too large'

BY CHARLES BATCHELOR IN AMSTERDAM

THE DUTCH Government's Budget deficit is too large, with the result that State borrowing on the capital market threatens to crowd out the private sector, Dr. Conrad Oort, a Board member of Algemene Bank Nederland, and a former Finance Ministry Treasurer-General, warned yesterday.

The Government must reduce its Budget deficit next year below the level of 5½ per cent of national income expected for this year, Dr. Oort said, on the eve of the announcement of the 1980 Budget estimates.

After allowing 1½ per cent for local authority and other indirect State borrowing, the Government's financing deficit must be below Fl 12bn (£2.8bn), equivalent to 4 per cent of national income, he warned.

The Finance Ministry originally forecast a deficit of Fl 16.2bn in 1979, amounting to 6 per cent of national income. But higher gas revenues—resulting from the linking of Dutch gas prices to the world price of oil—mean this is now likely to be smaller.

Even if the 1980 deficit does not exceed the level of this year it will still be much higher than the Government's publicly stated long-term target of 4 per cent, Dr. Oort added. A larger deficit was only acceptable for a short time if it were used to help strengthen the structure of the Dutch economy.

Dr. Oort rejected devaluation of the guilder as a solution for the stagnant economy. For the Government to borrow abroad to meet its deficits was unacceptable, since this would only increase money supply, and fuel inflation.

The extent of Government borrowing on the domestic capital market had reached critical levels, Dr. Oort went on. Real interest levels — the difference between interest rates and inflation—were at an unprecedented post-war level of 5 per cent. This threatened to hamper borrowing and hence; investment by industry. Mr. Frans Andriessen, the Finance Minister, presents the 1980 Budget to Parliament this afternoon.

● Striking dockers and tugboatmen in the Port of Rotterdam were "using intimidation" to prevent men prepared to work from entering the docks, the FNV trade union federation claimed yesterday. Individuals were threatened, while strikers removed cobbles from the streets to prevent vehicles getting through, the FNV added.

This follows decisions taken over the weekend by both groups of strikers to extend their action, which today enters its 27th day.

The smaller CNV union federation has said it will make emergency payments to members facing hardship because of the unofficial stoppage.

Poll result in Sweden hangs on post votes

By William Dullforce in Stockholm

THE SWEDISH Social Democrat leader Mr. Olof Palme, will not know until tomorrow whether he can return to the Prime Minister's office from which he was ousted three years ago.

Some 38,000 uncounted postal votes and 2,000 ballot papers from Swedes living abroad can still deny him the narrow victory he appears to have won, with the Communists' help, in Sunday's general election.

Even when the final count is in, the result may well dictate that a new election be held after the national referendum on nuclear power due in the spring.

After a dramatic election night during which the computers switched the lead seven times between the Left-wing parties and the non-Socialist bloc, the very last commune to report tipped the scale in favour of the Social Democrats and Communists.

They have, provisionally, 175 Riksdag members against 174 for the Moderates (Conservatives), Centre party and Liberals.

The non-Socialist parties scored just over 2,000 votes more than the left-wing parties in an election in which more than 90 per cent of the 6m electorate turned out. Each bloc took 49.2 per cent of the poll.

The postal votes to be counted tomorrow will be decisive. Nobody is sure how the 38,000 who posted their ballots on Sunday have voted, but to judge from the last election they could well include a majority for the non-Socialists. Swedes living abroad are expected to vote anti-Socialist.

The election has been a triumph for Mr. Gösta Bohman, the leader of the Moderates, who have replaced the Centre party as the largest non-Socialist party.

At the other end of the electoral scale, the Communists have had their best election in 30 years, winning three parliamentary seats. Mr. Palme's Social Democrats also gained three Riksdag places, but after their vigorous and highly organised campaign, this advance represents only half a success.

Mr. Palme has already indicated that, if the final count remains in his favour, he will form a minority Social Democrat Government. But he would be more dependent than in his previous Premierships on a resurgent Communist party.

The difficulties on the non-Socialist side, should the postal vote tip the result in their favour, are possibly even greater. Neither the centre party nor the Liberals will accept Mr. Bohman as Prime Minister.

It would be odd if Mr. Thörbjorn Fälldin, the Centre party leader, were to resume the premiership he left last October after his party had just lost 22 of its Riksdag members.

Mr. Ola Ullsten, currently heading the Liberal minority cabinet, would gladly stay in the Prime Minister's office, but he leads the smallest non-Socialist party which made no progress in the election.

Mr. Bohman, stressing that the economic situation called for a strong government, was the first to moot the possibility of a new election next year. Mr. Ullsten also appeared yesterday to suggest that he might continue his minority government until the nuclear referendum next March. Then, he said, the energy issue had to be solved quickly, so that economic problems could be tackled.

The provisional result is as follows, with the change from the 1976 election in parentheses: Moderates 72 (+17); Centre party 64 (−22); Liberals 38 (−1); Social Democrats 155 (+3); Communists 20 (+3).

Gains likely by Norwegian Conservatives

OSLO—Norway's Conservatives, rejoicing over their Swedish colleagues' advances in parliamentary elections, were hoping to make big gains in local polls yesterday.

Party leaders predicted a setback for the ruling Labour party and the Centre (Agrarian) party.

Three million voters chose municipal and county council members in the two-day elections, results of which were due late last night.

National issues such as taxation, unemployment, the environment, oil drilling and housing have dominated the campaign.

Mr. Erling Norvik, the Conservative chairman, and Mr. Ivar Leveraas, the Labour Party secretary-general, have both said they expect the Conservatives to make gains, although opinion polls still put them behind Labour with 30-34 per cent of votes against 36.

Reuter

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Italian inflation rate climbs back to 15%

BY RUPERT CORNWELL IN ROME

INFLATION IN Italy is back to an annual rate of over 15 per cent according to figures released yesterday. The news comes against a background of more widespread strikes in the public sector.

According to ISTAT, the national statistics institute, retail prices rose exactly 1 per cent in August, an unusually high seasonal jump which brings the year-on-year increase to 15.5 per cent for the first time in almost two years.

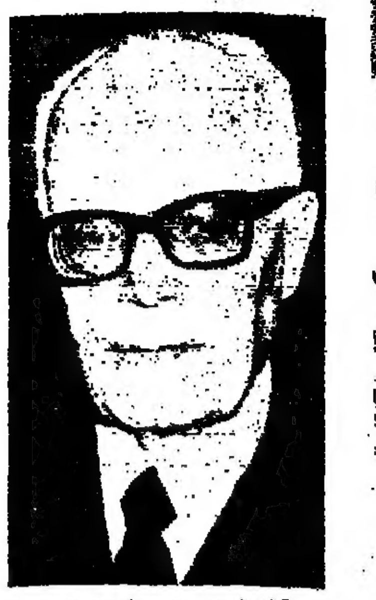
The portents for the coming months are not encouraging. The latest figures do not take account of the petrol and heating fuel increases decreed by the Government at the weekend, while electricity and other public sector tariffs have risen, or are about to go up.

It is widely feared here that inflation might now reach 17 or even 20 per cent by the end of 1979, compared with just under 12 per cent for calendar 1978.

The one day strike yesterday by more than 150,000 urban and local transport workers brought traffic chaos to major cities. The three main unions which called the stoppage have warned that further one-day protests are likely unless the men's outstanding wage contract demands are met.

Today and tomorrow will see fresh disruption, this time in the education system as teachers hold mass meetings to coincide with the re-opening of Italian schools after the summer holidays.

Meanwhile, Sig. Sandro Pertini, the Italian President, today begins a five-day state visit to West Germany, during which he and Sig. Franco Maria Malfatti, the Foreign Minister, will hold talks with President Carstens and senior Government ministers and politicians.



President Sandro Pertini . . . five days in West Germany

It is the first visit by an Italian head of state to West Germany for some 15 years. The Italian delegation is expected to take the opportunity of pressing Rome's demands for more equitable treatment by the EEC in the regional and agricultural fields.

Ireland facing power cuts for Papal visit

BY STEWART DALBY IN DUBLIN

IRELAND IS facing the possibility of power cuts after Electricity Supply Board fitters began a work-to-rule yesterday.

The Government will be acutely embarrassed by the fitters's action if it causes power cuts during the three-day visit of Pope John Paul II, who is due to arrive on September 29.

The fitters, who number several dozen, have been arguing about pay increases averaging £16 a week on basic salaries of between £65 and £80 a week.

Talks have recently broken down, and the fitters, members of the National Engineering and Electrical Trade Union, are refusing to do welding work, which is essential to the upkeep of turbines and boiler tubes at power stations. They have also banned overtime and movements between stations.

Immediate power cuts are not expected, but an accumulation of unrepaired breakdowns could lead to substantial cuts by September 29.

The main worry is that mechanical problems in such big power stations as Tarnert, in Kerry, or Poolbeg and Ringsend, in Dublin, could result in cuts throughout the country.

The Pope is visiting Ireland over the weekend, when industrial demand for power is low. There will, however, be extra demand from television companies broadcasting the visit to the rest of the world.

The Government has suffered considerable bad publicity this year because of a post strike, a petrol shortage, and a tax revolt. It can ill afford power cuts at a time when the world will be watching the Pope.

Details of security for the visit are beginning to emerge. All traffic will be banned within a five-mile radius of the centre of Dublin on Saturday, September 29, when the Pope is to hold his outdoor Mass for possibly 1m people in the capital's Phoenix Park. All leave for the 8,000-strong Gardai (police) has been cancelled.

Swedish industry outlook continues to improve

BY WILLIAM DULLFORCE, NORDIC EDITOR, IN STOCKHOLM

SWEDISH industry's deliveries and order intake continue to grow, while its cash and short-term money position has considerably improved. However, industry here is still not showing any firm disposition to invest, according to the Statistical Central Bureau's three latest reports.

The first shows that in July, industrial deliveries were 16 per cent higher in fixed prices than in the same month last year, while the inflow of new orders rose by 21 per cent. Value of order books at the end of July was 19 per cent up on a year before.

Despite the rising demand for Swedish companies' products, their total orders remain well below the level reached in the 1973-74 boom, the bureau says.

Against this, the figures show that the long-awaited engineering recovery appeared to have got under way during the three months to the end of July. Engineering companies, excluding shipyards, boosted deliveries by 17 per cent and orders by 11 per cent, compared with the same period last year.

At the end of June, industrial enterprises' liquid assets were 18 per cent up on a year earlier. But a survey in August showed no increase in companies' intention to invest.

At current prices, Swedish industry expects to invest more than Skr 14.3bn (£1.5bn) this year. This represents an advance of about 10 per cent on last year but is still far below the investment level reached in 1977.

The iron and steel companies are signalling larger investments and improvements are forecast in mining, foodstuffs, chemicals and engineering. But pulp, paper and timber mills foresee reduced capital spending.

Preliminary indications for 1980 suggest that industrial investment will increase, but is not likely to show any great recovery.

Hamburg homes evacuated after war poisons found

HAMBURG — An area of Hamburg around a disused chemical factory was evacuated yesterday, after hundreds of tons of highly poisonous chemicals and explosives, dating back to World War II, were found.

Nearby factories were ordered to stop work and about 200 people evacuated from their homes in the suburb of Eidelstadt.

Special troop units wearing gas masks and heavy protective clothing searched the building after a number of grenades containing poisonous chemicals, 70 tons of poisonous chemicals and 400 tons of zinc sludge used in the manufacture of explosives had been found on the site.

Troops are being allowed to spend only one hour in the factory at a time. Those residents evacuated may be able to return to their homes later today, police said.

The explosives were first found on September 6 when a boy died after handling some of the chemicals. His brother and a friend were severely injured.

Officials said the evacuation was necessary because chemicals might be accidentally released during the search.

A Hamburg City spokesman said work had continued at the factory on a small scale until two years ago, but during the last few years it had been operating, the factory had only manufactured gas masks.

The most dangerous chemical found so far is a German nerve gas known here as "tabun." The spokesman said eight grenades containing tabun had been found on Sunday.

هكذا في الأصل

OVERSEAS NEWS

Mr. Hafizullah Amin Afghanistan's new leader

Afghanistan shake-up worrying for Russia

By David Housego

THE OVERTHROW of President Nur Mohammed Tarka of Afghanistan, and his replacement as head of State by Mr. Hafizullah Amin, the Prime Minister, is seen by Western observers as a worrying development for the Russians. The Soviet Union has a growing commitment to Afghanistan's unpopular Marxist regime.

Radio Kabul announced on Sunday night that President Taraki *had resigned because of* ill health. But he appears to have been removed in a power struggle which caused further bloodshed in Kabul.

The fate of President Taraki and of two dismissed Cabinet Ministers — Lieut.-Col. Mohammed Aslam Watanjar, Interior Minister, and Major Sherjan-Mazdooryar, Minister for Frontier Affairs — was not known. But there was some speculation that they might have been killed.

Only a week ago, Pravda carried a picture on its front page of Mr. Taraki being received by President Brezhnev in Moscow on his way back to Kabul from the non-aligned nations' summit meeting in Havana. Such prominence was obviously intended to demonstrate that he had full Russian support.

Until the week-end, the Khalq (Masses) Party Government was under the dual control of President Taraki and Mr. Amin—a partnership in which Mr. Amin had the upper hand, but *which suited the Russians as* giving them more leverage over the government.

President Amin has on several occasions embarrassed the Russians by the unpopular radicalism of his reforms, and by his excessively pro-Soviet public stance in a Moslem, *nationalist country.*

Fighting appears to have broken out in Kabul on Friday, after the removal of Col. Watanjar (one of the leaders of the 1978 coup) and Major Mazdooryar from the Cabinet. Among those killed was Mr. Daoud Taroon, the head of the security forces and a close associate of Mr. Amin. President Taraki's removal followed soon after.

Such a power struggle at the centre of the ruling hierarchy is further evidence of the vulnerability of the regime, fighting an insurgency which has spread to most provinces. The Russians, who already have about 5,000 advisers in Afghanistan, have been supplying new equipment, including helicopter gunships. *But they are now* clearly facing a difficult choice in how far to go in their support of Mr. Amin.

Row worsens in Iran over export of revolution

BY ANDREW WHITLEY

THE RUNNING quarrel over policy between Iranian Government of Mr. Mehdi Bazargan and the ruling clergy has now extended to foreign affairs.

Dr. Ibrahim Yazdi, the Foreign Minister, yesterday rejected the declaration by Ayatollah Hossein Montazeri that Iran would export its revolution to all other Moslem lands.

The Foreign Minister told the official news agency, Pars: "We do not want to send armed men to fight foreign regimes . . . but we cannot prevent the influence of the Islamic revolution on other countries."

Dr. Yazdi, regarded as the senior official most sympathetic to the interests of the West, said he had assured Mr. Nur Mohammad Taraki, the former Afghan president, who was *replaced over the* weekend, that Iran would not interfere in the internal affairs of its eastern neighbour.

Last Friday Ayatollah Montazeri, who is reported to be the head of the still secret Revolutionary Council, warned Iran's Muslim neighbours of the Islamic Republic's proselytising intentions.

Bahrain and Kuwait, who each have significant numbers of Shi'a Muslims who look to Iran as their spiritual home, have in recent weeks cracked down hard on signs of unrest among their own Shi'as.

The Iranian Foreign Minister's statement, taking a more pragmatic approach than that adopted by the clergy, is seen as intended to alleviate the known anxieties of Iran's Gulf neighbours. Dr. Yazdi is also believed to have his own ambitions for the presidency of the Islamic Republic once the present process of constitutional transition is completed.

Meanwhile, in London, Dr. Shapour Bakhtiar, the last Iranian premier under the Shah, has been staking his own claim to be considered as a potential factor in Iranian *politics once again.*

At a press conference yesterday Dr. Bakhtiar, who escaped from Iran some two months ago after four months in hiding, said the Khomeini regime's complete failure to remedy the poor state of the economy and to prevent the massive brain drain of professionals would prove its undoing.

Sudan sets two rates of exchange

By Alan Darby in Khartoum

SUDAN HAS rationalised its exchange rate system by setting up an official two-tier system which legitimises the existing black market in *foreign currency.*

The new official rate of S£ 0.50 to the dollar is to be used for essential imports and exports, while other transactions—as defined by the government—will be conducted at the parallel rate of S£ 0.80 to the dollar.

The parallel rate will be allowed to fluctuate. The official rate was previously S£0.40 but because of a tax/subsidy arrangement all transactions were carried out at S£0.50.

The new system, introduced against a background of economic crisis which last month produced street disturbances and strikes. It is intended to ease balance of payments problems, encourage Sudanese working abroad to remit foreign currency and thereby reduce inflation and reduce constraints on the economy.

Under the new measures Sudanese commercial banks will be allowed to authorise more foreign-transfers without reference to the central bank and Sudanese will be allowed to open foreign currency bank accounts with funds obtained anywhere

The Bank of Sudan, the central bank, is understood to expect a net outflow of funds during the first month in which the new measures come into force. Saudi Arabia with which the measures were discussed, has agreed to supply Sudan with a cushion of *$300m to* cover the initial anticipated deficit. So far, no Saudi funds are believed to have been provided, however.

Camp David anniversary marked by accusations

By Roger Matthews in Cairo

THE FIRST anniversary of the Camp David Middle East peace agreements signed by Egypt, Israel and the U.S. was celebrated yesterday by more recriminations and accusations.

An Egyptian Government statement accused Israel of trying to obstruct the peace process by reportedly agreeing to allow Israeli citizens to buy land on the occupied West Bank of the Jordan and the Gaza Strip.

An Egyptian spokesman said the decision violated the spirit of Camp David, and was an attempt to influence the outcome of the negotiations on Palestinian autonomy.

"It casts doubts on Israel's intention to respect its commitment at Camp David to recognise the rights of the Palestinian people," the spokesman said.

But Egypt's displeasure has *to be seen in the context of* its similar anger about further Jewish settlements being set up in the West Bank and Gaza Strip

President Sadat earlier issued a statement reaffirming his determination to liberate all occupied Arab land, and to restore the "legitimate rights" of the Palestinians.

PRODUCTIVITY STARTS WORRYING SINGAPORE

A sure sign of development

Philip Bowring, recently in Singapore, examines the government decision to raise wages.

IF THERE'S a sure sign of becoming a "developed" nation it is when a country stops worrying about job creation and starts to worry about productivity.

At a time when most govern*ments are trying to hold down* wages, Singapore's Government-appointed National Wages Council (NWC) recently blithely announced a recommendation for an average 20 per cent rise in wage costs—higher for lower paid workers. That is in a country where inflation has been *running below 5 per cent,* meaning a real cost wage cost rise of some 15 per cent. The Government further said it was aiming for similar annual increases in the next few years.

Clearly it was not announcing just a wage policy, but a new economic strategy. Not all parts of this strategy are yet in place. Perhaps most important, one will have to wait till February's Budget to see how the Government intends to mould or *moderate the economic and fiscal effects of sharp wage rises.* Of the average 20 per cent, 4 per cent will go to increased Central Provident Fund (CPF) contri*butions and 2 per* cent to a *new* industrial training fund.

In the past, the government has held wages down, emphasising the need for resilience and austerity to attract investment in the face of world economic uncertainties. Singapore likes to view itself as a "rugged society." Outsiders might feel it was not half as rugged as the other high growth nations of East Asia: wages were higher than anywhere in Asia outside Japan and about on a par with Hong Kong.

But as a result of Government policy, wages in the last *few years have risen only* slightly faster than prices, and well below per capita GDP. The Government has two weapons of restraint: the annual NWC recommendation which applied to the public service and was the guideline for others, and the tap of temporary migrant labour from neighbouring Malaysia

The policy of low wages and generous tax incentives for industry, combined with Singapore's excellent infrastructure, attracted foreign investment and gradually eliminated unemployment worries. It was a very self confident Singapore which recently woke up to two *discomforting facts:*

- Labour demand was vastly outstripping supply. Some 23,000 additional foreign workers were brought in last year bringing the total well over 100,000. This trend was regarded as socially undesirable, especially as workers had to be brought from Indonesia and Thailand as well as Malaysia.
- That labour productivity had been growing more slowly in Singapore than in other fast expanding East Asian countries, and much more slowly than in the late 1960s.

GDP growth in recent years *has been at comparatively* modest 6-8 per cent a year despite annual growth of the labour force of 4.8 per cent—an unusually high rate caused by a combination of natural increase, imported labour and a sharp rise in the number of women seeking work.

The high wage policy is designed to stop the growth of simple low value added industries; to make other industries more capital intensive or produce higher value products and to persuade industries, particularly service ones, to shed marginally productive labour.

NWC guidelines have in particular held down wages in externally orientated services such as banking and oil industry servicing. This group will have no problem paying a succession of wage rises because profits are high and costs can be passed on to customers who have no place else to go.

But manufacturing industry is likely to have a harder time. Three types of industry may find it especially tough:

- Low value added assembly industries which Singapore now does not want.
- Skill industries such as engineering where local experience has been insufficient to achieve international levels of productivity.
- Local manufacturers who *lack the know-how, capital or* marketing capabilities to make quick changes in production techniques or products to remain competitive at higher wage levels.

If things go sour the Government has various defences: it could put a stop to the policy *next year; it could eliminate the* 4 per cent extra CPF contribution by employers without hurting wage packets; and it can manipulate foreign manpower imports. For all its bold talk of facing up to closures, the Government is keenly aware that a sharp rise in unemployment (currently 3.5 per cent) is not a politically acceptable option.

If the policy is generally successful it could scale down the contribution of manufacturing to the economy. This has been edging upwards, reaching 22 per cent of GDP last year. But critics of the Government claim that this has only been a result of generous tax and other incentives which have had to be paid for by the services sector, which is still by far the largest contributor to GDP, pays better wages, and has been less volatile.

Ohira aiming for 271 seats in October poll

BY CHARLES SMITH, FAR EAST EDITOR, IN TOKYO

THE CAMPAIGN for Japan's October 7 General Election was formally declared open yesterday afer some days of extralegal but increasingly active campaigining by the various parties.

The election battle is essentually a two-way contest between the ruling Liberal Democratic Party and the half-dozen or so opposition parties, ranging from the centre of the political spectrum to the far left.

The *Liberal Democrats,* in power since 1955, are certain to win, but will not regard themselves as having done well unless they win a minimum of 271 seats in the 511-seat Lower Touse of the Diet. This is the number required for the party to control all of the Lower House Diet committees, a necessary condition for "smooth" government by the majority party.

The Liberal Democrats, while easily the largest party, held only 248 seats in the last Diet, dissolved earlier this month, making it dependent on the cooperation of some of the smaller centre parties for the passage of some legislation.

Results of recent public opinion polls and local elections indicate that the party should do better than in the 1976 election, when it was seriously weakened by internal feuding. It is by no means certain, however, that *the 271-seat* target is within reach.

A feature of the 1979 election campaign will be cooperation between the four small- to medium-sized parties which make up the middle ground of Japanese politics—the Komeito (Buddhist-oriented "clean government" party), the Democratic Socialist Party, the New Liberal Club and the tiny United Social Democratic Party. The four have agreed to back each others' candidates (or to back jointly approved independent candidates) in 10 multi-member electoral districts. The Komeito and the Democratic Socialists alone *have co-operation* agreements in 20 more constituencies.

The largest opposition party, the Japan Socialists, are expected to have to fight hard to retain the 116 seats they held in the last Diet, in view of the swing towards the centre and right since the last election.

The Communists, however, are expected to do marginally better than in 1976.

A good showing for the Liberal Democrats *will strengthen* the position of Mr. Masayoshi Ohira as Prime Minister and Party President. Mr. Ohira has avoided any public commitment to the 271-seat target figure, presumably because he knows his rivals in the party would not hesitate to pin responsibility on *him if the target is not attained.*

Mr. Ohira won the party presidency last December, unseating the incumbent Mr. Takeo Fukuda against most people's expectations.

He is due to defend his position as Party Leader in a leadership election scheduled to be held late next year.

Home state likely to give former governor 168 delegates

Reagan wins California voting test

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

MR. RONALD REAGAN has demonstrated his political muscle, at least in his home state of California, by ensuring that a proposal that would have changed the rules for next June's Republican Party primary election in the state was thoroughly squashed.

A weekend meeting of the state's Republican central committee overwhelmingly agreed that the Republican primary would retain its winner-take-all provision. This means that whoever wins the primary will secure all the 168 delegates that California will send to the national party convention, at which 997 delegates will be needed to win the Presidential nomination.

Winner-take-all primaries used to be common in both parties, but a reforming trend has seen them almost abolished. California's Democrats switched in 1976 to a system awarding delegates on the basis of the proportion of votes won by candidates in the preferential poll.

The attempt to change the Californian rules was launched by a cross-section of state Republicans unenthused by Mr. Reagan's candidacy, including supporters of Mr. John Connally, the former Treasury Secretary and Mr. Reagan's most potent challenger for the allegiance of the party's Right wing.

Securing 168 delegates, nearly one fifth of the number needed for the nomination, would be clearly a useful bonus for Mr. Reagan—though one which was never much in doubt. Still the comfortable leader in most public opinion polls of Republicans, following his near-defeat of former President Ford in the 1976 nomination race, he will probably formally declare his candidacy, to much nationally televised fanfare, in November.

There is nonetheless the nagging suspicion that he may be vulnerable in the primary season. This is based on two arguments against him—his age (he will be 69 next year and would, if elected President, be the oldest man ever to enter the White House) and his record as a loser on the national level.

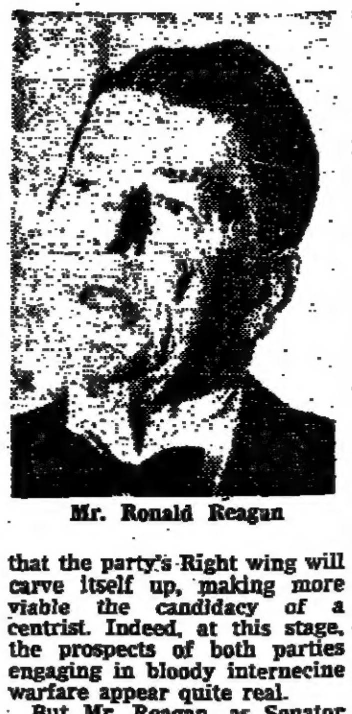
Republican opinion may also turn on the outcome of the struggle for the Democratic Party's nomination. Several party strategists are known to feel that if Senator Edward Kennedy wins the Democratic race, his most effective opponent would be Mr. Connally, whose vigour is not in dispute and whose thirst for a no-holds-barred contest against a man like the Massachusetts senator seems unquenchable.

If President Carter emerges victorious, however, it is argued that either Mr. Reagan or Senator Howard Baker from Tennessee would be a stronger opponent.

What remains to be seen, however, is what sort of race Mr. Reagan will run. His campaign manager, Mr. John Sears, who performed so brilliantly in 1976, seems intent on moving the candidate towards the centre, shedding his Right-wing image. Mr. Sears succeeded in ousting a campaign cabal, led by Mr. Lyn Nofziger, a long-serving Reagan aide, which wanted the former California Governor to remain faithful to his Conservative history.

One of the main hopes of moderates like Senator Baker is that the party's Right wing will carve itself up, making more viable the candidacy of a centrist. Indeed, at this stage, the prospects of both parties engaging in bloody internecine warfare appear quite real.

But Mr. Reagan, as Senator Baker freely admitted last week, remains the front runner and the man to beat.



Mr. Ronald Reagan

Paraguay arrest annoys U.S.

By Hugh O'Shaughnessey in Asuncion

RELATIONS between the U.S. Government and Gen. Alfredo Stroessner, who has just completed 25 years in power in Paraguay, have taken a turn for the worst following the arrest on Saturday of Dr. Domingo Laino, president of the Paraguayan Liberal Party.

Dr. Laino who had just returned from a visit to political and military leaders in Brazil, was arrested last year on his return from a visit to the U.S. Congress in Washington. The Carter Administration demanded his immediate release last year and he was freed after a month in jail.

This time he may be charged by the Paraguayan Government under the Law for the Defence of Democracy, which *forbids Paraguayans to criticise* the regime abroad. During his stay in Brazil last week, he disclosed that Gen. Joao Figueiredo, the Brazilian President, has been unwilling to meet Gen. Stroessner to discuss the future of the $10bn Itaipu hydroelectric scheme.

Chrysler told to look harder for aid

BY OUR U.S. EDITOR

IT HAS now become clear that it may take several weeks for Chrysler and the U.S. Government to agree on a financial support package for the ailing car company and even longer for Congress to approve any plan involving federally-guaranteed loans.

After the rejection of Chrysler's $1.2bn preliminary request for assistance, it has now emerged that the Treasury feels that the company has not tried hard enough to get financial support from other institutions.

The Government wants Chrysler to negotiate with the United Automobile Workers Union in the hope that the UAW may sign a pay agreement smaller than that just negotiated with General Motors. It is also interested in the company securing aid from state and local governments, from its bankers and from its suppliers.

Moreover, as Mr. Neil Goldschmidt, the new Secretary of Transportation, has made clear, the Government is simply not inclined to grant special dispensation to Chrysler, relieving it from part of the burden of federally-imposed mileage and emission control standards.

It is an open question whether or not Chrysler can secure support from outside. Company spokesmen stress that such preliminary negotiations have already begun, but no firm progress has been reported. The UAW is known to be sympathetic to Chrysler's plight, but is more intent on cementing its new contracts

Brazil builds road to Jari project

BY RIK TURNER IN SAO PAULO

BRAZIL'S National Economic Development Bank (BNDE) is to finance the construction of a road from the state of Para into Jari, the giant mining, agriculture and forestry project in the Amazon region belonging to Mr. Daniel Ludwig, the American industrialist.

Sr. Alacid Nunes, the Para state governor, told a symposium on Amazonia in Brasilia that the road would help the Federal Government to install a Brazilian administrative structure in the project, which is at present run totally by Mr. Ludwig's company, Jari Florestal e Agreopecuaria, managed by Americans.

The road was criticised by members of the opposition party, who suggested that the construction was only taking place because Jari's organisers were tired of taking responsibility for the health, transport, and education of the project's 30,000 Brazilian inhabitants.

Governor Nunes admitted that before he came to office, members of the Brazilian federal police stationed in Jari were paid by the project as well as receiving a normal salary. This effectively turned them into Jari employees, and led to irregularities such as non-Jari boats being turned away

UN GENERAL ASSEMBLY

Dissension may replace detente

BY OUR UN CORRESPONDENT

Mr. Salim A. Salim

WHAT MANY diplomats predict will be the liveliest, most acrimonious session of the United Nations General Assembly for several years opens in New York today with the immediate prospect of a floor fight over the issue of Cambodian representation.

Bitter arguments on this question which marked the recent Havana conference of non-aligned states are certain to carry over into the UN—along with most of those other issues that created sharp divisions as moderates and extremists battled for control of the Third World's political direction in the 1980s.

Non-aligned nations comprise the largest group in the General Assembly, where the superpowers have no right of veto.

New strains between Washington and Moscow, exacerbated by the recent disclosures of the presence of Soviet combat troops in Cuba, the animosity between Moscow and Peking, and continuing angry reaction to the Egypt-Israel peace accord—coupled with the vexed problem of the occupied territories—are sure to produce spirited debates at this 34th General Assembly, due to last 13 weeks.

There will, however, be at least one brief respite from polemics. Pope John Paul II is to address the General Assembly on October 2—almost exactly 14 years after Pope Paul VI became the first head of the Roman Catholic church to appear before the UN. In the Pontiff's honour, delegates will forego all other business during his visit, which was arranged in response to a personal invitation from Dr. Kurt Waldheim, the Secretary General—himself a practising Catholic.

That past-master of vitriolic phrase-making, President Fidel Castro of Cuba, is expected to address the General Assembly on about October 10, in his capacity as the leader for the next three years of the Non-Aligned Movement. If support for Palestinian demands for separate statehood gains further ground, Mr. Yassir Arafat, chairman of the Palestine Liberation Organisation, is considered likely to seize the opportunity to accelerate the momentum by making his second UN appearance.

A notable absentee from UN proceedings this year will be Mr. Andrew Young. He was obliged to tender his resignation last month as Chief U.S. delegate after he gave his superiors a misleading account of a meeting he had on July 26 with the PLO's UN observer, Mr. Zehdi Terzie.

Mr. Donald McHenry, a more cautious career official, succeeds Mr. Young, who is on a trade mission to Africa.

The agenda for the General Assembly comprises 126 items, although others may be added. Mr. Andrei Gromyko, the Soviet Foreign Minister, often proposes a few new ones, such as detente and disarmament, in his address to the delegates.

For the past few years, detente was the UN watchword, and assembly sessions were tranquil to the point of boredom. This year, however, signs abound of a return to livelier times as old antagonisms are resharpened and some new ones are added.

Indochina, and specifically the issue o of Cambodian representation, is likely to be a focus of recurring animosity: the UN recognises the Peking-backed Cambodian Government of Pol Pot, which was ejected from Phnom Penh by an insurrection engineered and supported by Vietnam. Whether that recognition should continue is expected to become an immediate issue, with the Russians, who support Vietnam, likely to challenge Ieng Sary, the Deputy Premier, and the other members of the delegation loyal to Pol Pot almost as soon as they take their seats in the assembly hall.

A nine-nation credentials committee may then be asked urgently to review the question of representation. This would provide a little time for the assembly to complete organisational business in preparation for the start of the general political debate next Monday.

An item on Cambodian representation could be added to the agenda, following the pattern established by the annual debates on Chinese representation that preceded the withdrawal of the Taiwan nationalists and the assembly's recognition of the Peking Government almost eight years ago.

Regardless of the outcome of the current London conference, the Rhodesian question seems certain to be discussed again in the assembly, along with the usual complex of South African problems.

The president of the assembly will be a veteran of UN diplomacy, Mr. Salim Ahmed Salim of Tanzania, who is sometimes mentioned as a possible successor to Dr. Kurt Waldheim as Secretary-General. Once a fiery anti-colonist — he has long presided over the 24-nation special committee on decolonisation—Mr. Salim has lately become more restrained and less polemical.

BELOW: UN Security Council with outgoing Ambassador Andrew Young centre, rear

Renault to build Saudi network for trucks

By Terry Dodsworth in Paris

THE ENGINEERING division of the Renault group, France's nationalised motor company, has won a FFrs 230m (£24m) contract to build a network of 23 lorry service stations in Saudi Arabia.

The garages will be built by RIET for the Saudi Arabian Government. They will be designed to service public sector vehicles throughout the country.

RIET said yesterday that the engineering for the project would be in the hands of the company itself, although the equipment for the garages would be supplied by about 20 French manufacturers. The station will have to be capable of servicing various marques of vehicle.

Previously, RIET has won a variety of engineering contracts in Francophone Africa.

● International companies have been invited to offer bids to build an Arab satellite. The official Saudi News Agency, quoting Dr. Ali Mushshat, managing director of Arab Satellite Agency ARABSAT), said tender documents would be available at the Tunis headquarters of the Arab League by the end of this month.

The satellite's control station will be based in Saudi Arabia with reception centres in all the Arabsat member countries, Dr. Mushshat said. He expected the project to be in operation 30 months after the signing of the contract, Reuter reports from Riyadh.

Greece, Libya to establish closer links

By Our Athens Correspondent

LIBYA HAS agreed to increase its imports of Greek products and set up joint industrial ventures under an agreement between the two countries signed here last week.

Libya, which last January agreed to provide Greece with 15m tons of crude oil in the next five years, has been showing increased interest in expanding economic, technical and trade relations.

The Libyan leader, Muammar al Gaddafi, has extended an invitation to the Greek Premier, Mr. Constantine Karamanlis, to pay an official visit to Tripoli. On the other hand, he has also forged close ties with Mr. Andreas Papandreou, whose party, the Panhellenic Socialist Movement, has been gaining ground in Greece because of its socialist and neutralist stand.

By supplying Greece with 3m tons of crude oil a year, Libya will be covering one-third of the country's annual requirements. The overall agreement means that trade between the two countries will increase from $170m to $200m a year.

Greek construction companies have recently undertaken projects, mostly infrastructure work, in Libya worth an estimated $170m. The establishment of a shipping line between the island of Crete and Libyan ports is planned, as are other joint enterprises.

The two sides also agreed to set up a Greek-Libyan investment company as soon as possible to undertake joint industrial and tourist projects. The first such venture discussed was the establishment of an ammonia and fertiliser plant.

Iran asks W. Germans to complete iron ore project

BY ROGER BOYES IN BONN

TWO West German companies have been asked to return to Iran to complete work on an important iron-producing project which had to be suspended after the Shah was overthrown.

Lurgi Gesellschaften, which had been making an ore-pelletiser plant in Ahwaz, and the Korf Steel group withdrew their German workforce at the end of last year. The companies are now intending to send out experts to assess what damage was sustained during the revolution before the German workforce returns.

The Lurgi plant was believed to be about 60 per cent complete at the beginning of this year while Korf's three Midrex direct reduction units were almost ready to come onstream. The Midrex reduction process produces iron, in a highly pure form, from ore pellets. Each unit in Ahwaz is designed to produce 400,000 tonnes of crude iron, representing a substantial input for the Iranian steel industry.

Although the move will give some encouragement to German companies worried about their Iranian interests, the Ahwaz project is probably a special case. The Iranians appear to be anxious to make progress in steel production and with the Korf units so close to completion, the Tehran Government clearly thought it worthwhile to call back the German concerns.

The Iranian Government makes a clear distinction between the necessity for iron and steel projects—Iran retains its 25 per cent stake in Krupp—and "uneconomical" nuclear engineering schemes. The $6.9bn contract to build two nuclear reactors in Bushire was terminated by the Iranians and Kraftwerk Union after the Tehran Government criticised the project for being "unsocial" and overpriced. This led to considerable concern among German companies with Iranian interests because the KWU deal had been regarded as a cornerstone of trade between the two countries.

France in new E. German pact

BY DAVID WHITE IN PARIS

IN THE latest of a recent series of efforts to boost trade with Eastern Europe, France has signed an industrial pact with East Germany intended to cover FFr 12bn (£1.27bn) worth of French equipment between 1980 and 1985.

As in several other Comecon countries, France is trying to repair the disappointments following earlier agreements. In early 1977, the French and East Germans set their sights on a tripling of trade by 1980. In practice, only this year are the two countries within reach of their 1976 trade record of FFr 1.91bn. In 1977 their exchanges dropped to FFr 1.38bn, recovering to FFr 1.75bn last year and FFr 1.4bn in the first seven months of this year.

As a result of a contract for French railway carriages, trade in the first seven months of this year swung FFr 400m into France's favour after a FFr 250m deficit with East Germany last year.

Recent French contracts include a transmission parts factory to be built by Citroen and a fertiliser plant deal with Creusot-Loire.

The latest agreement covers capital goods, especially for the motor and steel industries, and railway equipment. The East Germans are also seeking French co-operation in chemicals and electronics.

Dr. Gerhard Beil, Deputy East German Trade Minister, said here that the two countries were envisaging joint production of machine tools in France for sale in both markets and to third countries.

The two sides expect to conclude a technical co-operation agreement in the first half of next year.

France has agreed to arrange credit facilities. This agreement followed a visit by M. Jean-Francois-Poncet, the French Foreign Minister, to East Berlin in July.

No details were given of what the East Germans expect to export to France in return, but they have made clear that they will be seeking to balance bilateral trade over the five-year period.

Other boosts to East European trade came during visits by President Valery Giscard d'Estaing to Bucharest and Moscow in March and April.

W. Germany sees Far East boom

BY GUY HAWTIN IN FRANKFURT

WEST GERMANY'S trade with the Far East and South-east Asia is expected to expand by close on 20 per cent this year. In the not too distant future the area is expected to become one of the most important markets for German goods.

This year authoritative forecasts estimate the Federal Republic's trade turnover with the area to reach close on DM 34bn (£8.3bn). This compares with 1978's DM 28.4bn.

At the same time the Far East and South-east Asia will account for about 5.6 per cent of the Federal Republic's foreign trade. Last year the figure was 5.4 per cent.

According to a report by Ifo-Institut fuer Wirtschaftsforschung, the highly-regarded Munich-based economic research institute, the expansion has been under way for at least four years.

Between 1976 and 1979 the Federal Republic's total foreign trade has grown by an annual average of 7.7 per cent. During the same period, however, trade with the Far East and South-east Asia has expanded at an annual average of 13.4 per cent.

Imports from the area have grown far faster than exports, Ifo points out. But it claims that long-term trends indicate that the Federal Republic's chronic trade deficit with the area should eventually be eradicated.

The institute estimates 1979's imports from the area at about DM 19.1bn, while it predicts exports rising to DM 14.7bn. This, if the forecasters are correct, indicates a reduction in the deficit this year from 1978's DM 4.9bn to DM 4.5bn.

Much of the deficit is accounted for by trade with Japan — the Federal Republic's most important trade partner in the area.

This year German imports from Japan are expected to total DM 7.9bn, while exports are forecast to reach DM 4.3bn. Total trade volume will therefore be up from DM 10.7bn in 1978 to DM 12.2bn. The deficit in Japan's favour, however, should remain stable at 1978's DM 3.6bn.

In real terms, however, the fastest growth in real terms has come in the Federal Republic's trade with South Korea. In 1976 the total turnover in trade between West Germany and South Korea amounted to DM 1.5bn. This will have risen, according to Ifo forecasts, to DM 3.3bn by the end of 1979 —DM 1bn above the 1978 level.

What is most encouraging about West Germany's South Korean trade is that exports are growing far faster than imports. This year imports are expected to increase relatively slowly—from 1978's DM 1bn to DM 1.4bn.

Exports from West Germany to South Korea, on the other hand, are forecast at DM 2bn, which is way ahead of the Federal Republic's DM 500m sales in 1976.

Brazil help in Manila fuel plan

BY DIANA SMITH IN BRASILIA

BRAZIL is to supply expertise and equipment to the Philippines in the development of a broadly based alcohol fuel programme.

This was revealed by Sr. Geronimo Velasco, the Philipino Energy Minister, who spent 10 days touring Brazil, inspecting cane plantations, alcohol distilleries, distillery equipment manufacturers and Volkswagen of Brazil, which now producers vehicles which run exclusively on cane alcohol.

The alcohol entente is logical according to Sr. Velasco. Both countries have similar oil problems, the Philippines, produce less than 20 per cent of its oil needs—41,000 b/d of total consumption of 240,000—and Brazil only produces about 15 per cent —162,000 b/d of consumption of over 1m b/d.

Both nations, moreover, have abundant sugar cane, and, like Brazil the Philippines hopes an alcohol programme will eventually replace 20 per cent of its petrol needs.

Since Volkswagen vehicles are produced in the Philippines, Sr. Velasco was unsure whether his country would import "alcomobiles" from Brazil. However, he said, manufacturing technology for these vehicles would definitely be Brazilian. Equally, his Government was interested in importing distillery equipment from Brazil and studying Brazil's use of alcohol as feedstock for an alco chemical industry.

At the moment, two-way trade is in Brazil's favour: In 1978, it exported $41.7m (£20m) of goods to the Philippines, and bought only $1m.

WEAVING MACHINES

UK in bid for Hanover comeback

BY RHYS DAVID, TEXTILES CORRESPONDENT

TWO NEW weaving machines which between them carry Britain's hopes of a serious re-entry into the world market in looms, worth around £1bn a year, will go on display next month at the International Textile Machinery Association exhibition in Hanover.

The first machine embodies a new and as yet largely untried concept developed in Loughborough by Bentley Engineering, the Sears Group subsidiary which is one of the world's leading producers of knitting machinery. Based on an Italian invention the Bentley machine incorporates a moving cylinder and is claimed to produce fabric 10 times faster than the conventional flat loom.

The other development is by Northrop, the Blackburn-based loom builder. The company was one of the giants of the weaving machine industry in the immediate post war years, but has recently been confined to the manufacture of the older shuttle type loom which has been largely superseded in developed markets by high speed shuttleless or rapier systems. Northrop will be showing its first rapier loom at the exhibition.

Weaving equipment — of which Britain was the only manufacturer in the early part of the last century—has been another sad story of UK industrial decline. World purchases of looms have been totalling around 40,000 a year, with loom prices reaching £30,000 and more for advanced models. But Britain has almost failed to compete.

Apart from Northrop, whose main markets have been in developing countries which it has supplied with the slower, more labour intensive and therefore cheaper shuttle looms, the UK weaving machinery industry has consisted mainly of small specialist manufacturers.

Thus the UK has a position in narrow fabric weaving through Bonas and in conveyor belt weaving through Wilson and Longbottom, and also has two small suppliers to the wool textile industry in Macart and Hattersley.

The Swiss have captured much of the world market in the expanding shuttleless area through Sulzer, Saurer and Ruti. Other important suppliers are SACM of France and Dornier of Germany.

The UK share of OECD exports of both weaving and knitting equipment, according to a recent National Economic Development Office sector working party report, was down to only around 5.6 per cent in 1977 compared with 13 per cent at the start of the decade, and the bulk of these sales are accounted for by the knitting sector.

The lack of a competitive weaving sector has meant that it has largely been overseas manufacturers which have benefited from the re-equipment programmes in the wool textile and cotton sectors over recent years.

The wool textile industry has spent around £100m over the past five years, under a Government-assisted modernisation scheme, and much of this has been on weaving equipment.

Various attempts have been made to revive the industry, including Government funding of more than £200,000 towards a new technique developed by Cambridge Consultants, part of the Arthur D. Little Organisation. This project failed to attract commercial support, however, and has now run out of funds. Platt Saco Lowell, the UK spinning machinery producer, has been reluctant to tackle weaving, taking the view that its expertise is in machinery for processing fibres and not in the very different technique of producing fabric.

Loom development has made more sense for Bentley, which is already involved in fabric technology as one of the world's leading producers of knitting machinery, with a turnover last year of around £50m.

The group's move has also been prompted by the need to find new products to compensate for the severe decline in world demand for its main line—circular knitting machines. This is being achieved through the new orbit loom—and by a broadening of the knitting product range, mainly through acquisition.

The main application of the orbit loom at present is seen as industrial fabrics, where the high output speed will make it possible to link the machine directly with other equipment for adding backing materials.

The key to orbit's success, however, will be whether it can later move into the much more demanding apparel fabric weaving area where much finer counts of yarn have to be used and fabric construction is much more critical.

Northrop by contrast, is seeking a place alongside the established Continental weaving machinery groups with a much more conventional machine, although it is the newer shuttleless type of loom. Its problem will be in mounting a successful challenge when faced with the very large development budgets and research staffs available to the established producers.

ITMA 1979 could become the event at which Britain puts itself firmly back into loom building, beginning the recovery of one of the industrial sectors it has lost. It looks, however, like a fairly long shot.

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French may seek Concorde spending

BY MICHAEL DONNE, AEROSPACE CORR.

THE POSSIBILITY of limited further spending on Concorde research to keep supersonic airliner technology alive through the 1980s, is likely to be suggested to the British Government this week by M. Joel le Theule, French Transport Minister.

He is due to meet Mr. Adam Butler, Minister for Industry, in London on Friday ostensibly for routine talks about clearing up the remnants of the Concorde production programme.

But M. le Theule is expected to take the opportunity to suggest that rather than wind up the project—which is what the British Government would like to do—the two governments should at least spend a comparatively small amount annually on continued research against the time when a second generation supersonic airline might become feasible.

So far, the total bill for Concorde research, development and production has amounted to well over £1bn, divided between Britain and France. The 16 production aircraft authorised have been built. Two are research aircraft, and 14 are for airline service, of which British Airways already has six and Air France five.

Beyond deciding what to do about the three aircraft still unallocated (of which one is in Britain and likely to go to British Airways, and the two others in France which are likely to go to Air France), the remaining task is to clear up the odds and ends of a programme that has lasted since November 1962.

The British Government is not anxious to become involved in further Concorde spending, prefering to leave it to the aerospace industry to undertake research as it considers necessary to sustain technical knowledge on supersonic airliners.

The UK industry feels, however, along with the French Government, that some continued support from the governments, even at a comparatively low level, is desirable, so as to keep pace with continued U.S. research spending in this field.

The argument is that if Britain and France drop supersonic civil research entirely the way will be left wide open for the U.S. to move into a second-generation supersonic airliner in the 1990s, just when Concorde will be nearing the end of its service life.

Offices Bureau heads list of quangos to be axed

BY ANDREW TAYLOR

THE LOCATION of Offices Bureau is among the 57 organisations named in the first large-scale Government pruning of quangos—announced yesterday by Mr. Michael Heseltine, Environment Secretary.

However, the scrapping of almost half the Environment Department-sponsored quangos —*quasi antonomous non-*Governmental organisations — will result in an immediate annual saving to the public purse of only £1.4m. About 60 jobs will also go and 590 quango appointments will be ended.

The £1.4m saving is made up *from the cutting of 36 quangos* which are to go immediately and a cut of £700,000 a year from Mr. Heseltine's decision to stop *funds to* the Centre for Environmental Studies, also announced yesterday.

Mr. Heseltine also named a further group of 21 quangos which will be scrapped "in due course"—most of these are New Town bodies which are in any case due to be wound up when their powers are eventually transferred to local authorities.

It is unclear what savings, if any, will result from the winding *up of this second batch of* quangos.

Mr. Heseltine also announced that responsibility for a further three quangos — advising on the purchase of works of art; works of art in the Commons and on sculpture in royal parks —will be handed over by his department to Mr. Norman St. John-Stevas, Arts Minister.

This will reduce the number of quangos for which the Environment Department is responsible from 119 to 58.

Yesterday's announcements come shortly after the Government *has launched a full scale* inquiry under Sir Leo Pliatzky into the operation and future of all quangos.

And Mr. Heseltine made it clear that further quangos for which his department is responsible could still be *wound up.* He said that the position of the Agreement Board the standards authority for the building industry—the future of which has come under increasingly close scrutiny—was still being considered.

The future of bodies such as the Housing Corporation and the Sports Council looks secure. Mr. Heseltine said that it was highly unlikely that these organisations would be scraped.

Of the 36 quangos immediately due for the axe the Location of Offices Bureau and the eight Regional Economic Planning Councils command by far the highest budgets. Their closure will result in a combined annual saving of £600,000.

Other organisations included in the first group of 36 quangos to be shut are the Constructions Industry Manpower Board, costing an annual £10,300; the Hadrian's Wall Advisory Committee costing just £400 a year and the Clean Air Council costing £5,500 a year.

Trade union leaders have already strongly criticised the ending of the Constructions Board. This was established three years ago to advise on the "lump" system of paying construction workers — under which workers become labour-only sub-contractors and are paid salaries gross which are not always declared to the Inland Revenue.

Professor Peter Willmott, director of the Centre for Environmental Studies said yesterday that he regretted Mr. Heseltine's decision to withdraw funds from the centre which draws four-fifths of its cash from Government.

The centre which employs 75 people would now seek to make up this balance by applying to the Ford Foundation and other American charities said Mr. Willmott. The centre is currently working on four projects for the Environment Department—the study of property markets, urban decline homelessness and regional planning.

Mr. Heseltine also defended his recent decision to establish two new quangos — urban development corporations — to mastermind the redevelopment of 8,000 acres of derelict dockland in London and on Merseyside.

The Environment Secretary said yesterday that it was unfair to compare the cost of establishing these two new bodies with savings to be made from the cutting of other quangos. He said that the redevelopment of dockland offered immense opportunities.

On the new towns, Mr. Heseltine said that he was concerned about the speed with which urban areas were declining while the people going to new towns were those that urban areas could least afford to lose.

He had, therefore, asked Mr. John Stanley, Housing Minister, to carry out a complete and urgent review of the new towns.

Our labour staff writes: An official of the Association of Scientific, Technical and Managerial Staffs which has publicly defended quangos said last night that the answer was not to cut them out but to make them more accountable to Parliament and the consumer.

Mr. Russell Miller, *national* officer responsible for ASTMS members in grant-aided bodies, said: "Many of these bodies are safeguards against bureaucratic abuse, being in the fortunate position of being part of government but not responsible to it."

He added: "People looking for their abolition are going to have more bureaucracy rather than less because their functions will have to be taken on by Government departments."

The full list

Quangos to be abolished: Advisory Committee on Bird Sanctuaries in the *Royal Parks:* Advisory Committee on Housing Co-operatives; Advisory Committee on Trees in the Royal Parks; Ancient Monuments Board for Rescue Archaeology (to be re-absorbed by Ancient Monuments Board); Area *Archaeological Advisory Committees* (13) (residual functions to be performed by the Inspectorate of Ancient Monuments and Historic Buildings on advice from the Ancient Monuments Board): Clean Air Council; Construction and Housing Research Advisory Council; Construction Industry Manpower Board; Detergents and Allied Products: Voluntary Notification Scheme Scrutiny Group; Environmental Board: *Hadrian's Wall Advisory Committee* (to be re-absorbed by Ancient Monuments Board); Housing Associations Registration Advisory Committee; Inland Waterways Amenity Advisory Committee; Location of Offices Bureau; Planning and Transportation Research Advisory Council; Regional Economic Planning Councils (8); Standing Technical Committee on Synthetic Detergents.

Quangos to be retained for the present but which will be wound-up in due course: Advisory Panel on Institutional Finance in New Towns; Commission for the New Towns; New Town Development Corporations (16); New Towns Staff *Commission:* Committee to Examine the Standards of Lawn Tennis in Great Britain; Recreation Management Training Committee.

Quango from which funds will be withdrawn: Centre for Environmental Studies.

Quangos to be passed to Minister for the Arts: Advisory Committee on the Purchase of Works of Art; Advisory Committee on Works of Art in the House of Commons; Advisory Committee on Sculpture in the Royal Parks.

Quangos to be retained or further *considered:* *Advisory* Committee on Local Government Audit; Advisory Committee on the Protection of Birds; Advisory Committee on Rent Rebates and Rent Allowances; Agrement Board; Ancient Monuments Board; British Waterways Board; Building Regulations Advisory Committee; Building Research Establishment Advisory Committee; Commission on Energy and Environment; Commission for Local Administration in England; Commons Commissioners; Council for Small Industries in Rural Areas; Countryside Commission; Development Commission; Historic Buildings Council; Housing Corporation; Housing Services Advisory *Group; Hydraulics Research Station* Advisory Committee; Letchworth Garden City Corporation; Local Government Boundary Commission; Local Valuation Court Organisation; National Building Agency; National Consultative Council for the Building and Civil Engineering Industries; National Parks Planning Boards (2); National Water Council; Nature Conservancy Council; Noise Advisory Council; Property Advisory Group; Radioactive Waste Management Advisory Committee; Regional Water Authorities (9); Rent Assessment Panels (15); Scientific Authority for Animals; Sports Council; Waste Management Advisory Committee; Water *Space Amenity Commission.*

Agent to stop acting for Sasse

By John Moore

MERRETT DIXEY Syndicates, the Lloyd's underwriting agent, is to stop acting for the troubled Sasse syndicate.

The announcement came yesterday after a two-and-a-half hour meeting of the members of the 110-strong Sasse syndicate, which faces £20.2m of losses.

Merrett Dixey Syndicates was the agent brought in by Lloyd's to manage the syndicate in May 1978, when it ran into trouble.

Under the leadership of Mr. Stephen Merrett, chairman of Merrett Dixey, the *syndicate* has gained numerous forms of help from the 16-strong ruling committee of Lloyd's to help *meet its losses arising from* fire and damage to property insurances.

Other losses that the syndicate *is facing* are on computer leasing insurances and liability insurances for fairground and holiday camp operators.

During Mr. Merrett's handling of the syndicate's affairs his relationship with the Lloyd's committee has been stormy.

He *said yesterday that* his decision was taken because of "a combination of events." The Lloyd's committee had acted "without our knowledge" when it prepared legal action against 30 members of the syndicate last week because they had indicated "a reluctance to comply" with the Lloyd's audit requirement.

Under this, the underwriting members must return a certificate of underwriting account which shows that their assets are sufficient to meet liabilities.

Lloyd's is seeking a declaration *that the 30 members of the* syndicate should produce their certificate by September 30.

Mr. Merrett said that the legal action started by 27 members against Lloyd's, in which Merrett Dixey had become a co-defendant, also made it difficult for his company to continue to act.

Two Lloyd's deputy chairmen, Mr. Charles Gibb and Mr. Peter Green, attended yesterday's meeting.

If the Merrett management is not replaced within 30 days management of the syndicate reverts to the Sasse Turnbull management company and Mr. Frederick Sasse.

One member of the Sasse syndicate, Earl Fortesque, has demanded a public apology from Lloyd's. He was named in the Lloyd's action but said yesterday in a letter to Mr. Ian Findlay, Lloyd's chairman: "If you had taken the trouble to inquire you would have discovered *that I have submitted* a certificate of my assets, confirmed by an accountant, that these have satisfied your auditors *and that I have met the* audit requirements."

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£½m project to deepen Lowestoft dock

By Lynton McLain

LOWESTOFT PORT, Suffolk, is to be deepened in a £500,000 project to allow ships twice the present maximum size to use it.

The British Transport Docks Board has awarded the contract to John Laing Construction and work will start next month. It will involve deepening the bridge entrance *channel to the harbour by* nearly five feet.

When completed the channel will be 68 feet wide and 18 feet deep. *This will allow ships of* 6,000 tonnes deadweight to berth at the port's commercial inner harbour.

Indicators suggest downturn soon in economic activity

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

A DOWNTURN in the level of economic activity in the next few months is suggested by official indicators designed to identify turning-points in the business cycle.

There is considerable controversy among economic commentators as to when the expected recession will start. Some think that a downturn has started, while other believe that demand will hold up for the rest of this year.

The Central Statistical Office's indices of cyclical indicators, published yesterday, tentatively suggest an early downturn.

The composite index of longer leading indicators, which looks *ahead an average of* 12 *months* to cyclical turning points, fell again last month to near its lowest level since 1974. This *reflected* a further rise in short-term interest rates and a decline in share prices.

After a temporary rise in the early spring this index has fallen for a year, which suggests that output should be at or near a cyclical peak.

The index of shorter-leading indicators, which looks ahead about six months, fell in July for the second month running, though it has fluctuated sharply in the past couple of years.

The index of coincident indicators, which is broadly in line *with the cycle, rose* slightly in July, for the fifth month in a row, while the indicator which lags behind turning points was broadly unchanged.

Officials warn that month-to-month movements need to be interpreted with care because of erratic influences, and revisions to the underlying data.

A turning point seems near. But as yesterday's monetary bulletin from *the stockbrokers* W. Greenwell said, "given the accuracy of existing techniques, whether monetary or Keynesian, it is unfortunately *not* possible at present to be precise about timing."

Consumer role

The brokers stress the importance of consumer psychology and the level of savings.

But they have little doubt "that before long the rise in inflation and the coming rise in unemployment will make people cautious, and that savings will then rise; but the consumer could in the meantime bring expenditure forward to beat future price increases.

"If this happens, savings will temporarily fall, personal loan demand will remain buoyant, and the downturn in the money *supply and the recession* will be delayed slightly.

Manchester by-election test for Government

BY PHILIP RAWSTORNE

THE GOVERNMENT faces its first test at the polls in a by-election next week at Manchester Central.

Labour leaders, already confident of victory in this party stronghold, forecast that the result will reflect rapidly growing disillusionment among Tory voters.

Less than six months after Mrs. Margaret Thatcher was swept to power, they claim that *many of her supporters* are ready to defect.

When nominations closed yesterday, six candidates had *entered* the contest, caused by the award of a life peerage to Mr. Harold Lever, the former Labour Cabinet Minister.

Mr. Robert Litherland, a print worker and city concillor, defends the Labour majority of almost 10,000.

Reinforced by the results of the local government elections, in which the Tories gained less than half Labour's vote in the area, he says that the poll on September 27 will mark the formal end of the Government's political honeymoon.

Mr. Stephen Lea, the Conservative candidate who runs his own computer business strongly disputes Labour's calculations. Support for the Government's policies remains solid, he says and that Manchester Central's voters may grasp this second chance to follow the course set in the General Election throughout the country.

Mr. Lea says that he will gain advantages too from the differences which arose between Mr. Lever and Labour Left-*wingers in his local party.* "He and I arem uch closer in the political spectrum . . . I am his natural successor," he says.

The Liberal candidate, Mr. Tony Parkinson was chosen only last week and his late entry into the lists is unlikely to improve on the Liberals' poor showing six months ago.

Some of the floating voe is expected to go this time to the Ecology Party, which fielded 53 candidates in the General Election, and is represented now by Mr. John Foster a schoolteacher and formerly an active member of the Labour Party.

The other two candidatts are Mr. Seyed Ala-Ud-Din, Independent Labour, Mr. William Boaks another Independent who has contested several by-elections in recent years.

General Election result: Mr. N. H. Lever (Labour) 14,117; H. P. Cummins (Conservative) 4,413; G. M. R. Wilmot (Liberal) 1,052; D. S. Bentall (National Front) 365. Labour majority 9,704.

Builders urged to unite

BY MICHAEL CASSELL

LEADERS OF the construction industry should be prepared to work much more closely together to dispel the industry's poor public image, says an independent report prepared for the National Federation of Building Trades Employers.

The report is by a working party with Prof. Denis Harper, of Manchester University, as chairman. It says the industry faces a *difficult* and *lengthy* task in convincing people that it does not suffer from indifferent ethical standards, and in removing suspicions of corruption and collusion. It is also widely assumed that the industry's workmanship is of poor quality, says the report.

It calls for the NFBTE and the Federation of Civil Engineering Contractors to draw up a draft constitution for a Confederation of Construction Industries.

The existing representative bodies will not by themselves be able to remove such extremes of prejudice—particularly when internecine antagon*isms among both employers'* bodies and unions are widely publicised.

The draft constitution should be prepared within a year, and should then be put before the two main bodies and any other interested parties.

BP attacks cheap U.S. chemical imports

By Sue Cameron, Chemicals Correspondent

BP CHEMICALS' managing director warned yesterday that profits could be "hit hard" by a flood of cheap U.S. petrochemical imports coming on to the European market.

Mr. Len Burchell said the petrochemical industry in Western Europe was "scared to death" of the threat from American imports.

The problem was being made worse because European Commission civil servants seemed to be either "misunderstanding the position or else trying to avoid the problem altogether."

"We are concerned because there is no way European companies can compete with U.S. imports. Last month, the price of ethylene—a basic petrochemical—was $370 a tonne in the U.S., while in Europe it was between $615 and $640 a tonne.

"The price of propylene, another important material, was $275 a tonne in the U.S. and between $435 and $465 a tonne in the European market.

Gas prices

"These figures show the root cause of the problem in a very real sense. And from a legal point of view, judging by what has happened so far, the existing anti-dumping procedure is totally ineffective. Anti-dumping costs can only be made if a country sells abroad at a lower price than in its home market. The U.S. producers are not doing that."

Cheap U.S. imports were already appearing on the European petrochemical market, but there was no evidence yet that they were coming in on a large scale.

Acetic acid, one of BP Chemicals' own products, was being offered in Europe by the Americans at £30 a tonne below market prices on this side of the Atlantic. Vinyl acetate also made by BP Chemicals, was being sold at £50 a tonne less than the going rate in Europe.

But the U.S. producers were selling their materials through brokers. It was therefore difficult to know exactly which U.S. companies were involved.

The Americans were able to sell petrochemical products more cheaply because they paid less for raw materials. European companies relied heavily on oil-based naptha to make ethylene, while the 70 to 80 per cent of U.S. ethylene was made from gas. This was cheaper because the process was simpler.

In addition, U.S. oil and gas prices were controlled and therefore considerably lower than in Europe.

European textile producers had already been hit by cheap U.S. imports which resulted from lower American feedstock prices.

But the European Commission had said that before any action could be taken against the U.S., Europe's textile producers would have to distinguish between America's natural advantage in using gas rather than naphtha as a feedstock and the artificial one of having controlled oil and gas prices.

"It is virtually impossible to distinguish between the two and to say how much weight should be given to each," Mr. Burchell said.

"We are dependent on the Commission's willingness to actually take action. What we would like to see is a mechanism based perhaps on the unfair competition clause in the Gneral Agreement on Tariffs and Trade — GATT — which could be triggered quickly."

NEWS ANALYSIS ● LYNTON MCLAIN ON LONDON TRANSPORT

Unions accept one man, one train

ONE-MAN operation of London's underground train system was agreed yesterday, after one of the longest series of negotiations in its history.

London Transport first tried to coax the unions towards acceptance of one-man trains 11 years ago.

There was little chance of success, however, but not because of union intransigence. The 237-mile underground railway was not equipped with rolling stock suitable for operation by only a driver.

But London Transport got underground train drivers included in a national pay and efficiency agreement and set the scene for an apparently never-ending annual debate.

The agreement called for one-man operations as soon as practicable.

Paradoxically this opening chapter in the saga came in 1968 as the first one-man operated trains sped along the new Victoria Line under automatic control.

This advanced equipment, however, was installed only on the new line. Fitting the equipment to all existing lines with their 4,500 rail cars was too expensive. Instead, the LT Board's policy for upgrading other lines to one-man control was to be based on waiting for *old rail cars to wear out.* All rolling stock introduced after the 1968 agreement was to be capable of one-man operation.

The debate with the unions started again two years ago when the first of the new trains for older lines arrived. But the issue came to a head only this year, after the threat of an all-out strike by drivers.

A strike was the last thing the London Transport Executive wanted. The executive's budget for this year forecast an operating loss of over £20m, and the Greater London Council is reducing London Transport subsidies.

Subsidies

The forecast was based on small increases in bus and train mileage, a £1.5m fall in council revenue support to £54.5m (a £6.5m loss in real terms), and provision of an extra £17.4m for growth in the traffic handled.

London Transport's operating loss could rise to £53m in 1981 unless the GLC sanctions higher fares, bigger subsidies or both. However, last year, London Transport had a net deficit of £1.9m after expenditure of £439.5m and receipts, before grants, of £334.6m.

Fares have already risen twice this year by 7.5 per cent in June and 12.5 per cent *earlier this month, amid a rising* wage bill and reduced support.

All these factors put great pressure on Mr. Ralph Bennett, London Transport chairman, and Mr. William Maxwell, managing director for railways, to improve productivity among the system's 2,000 drivers.

They succeeded. But the agreement announced yesterday is limited in a number of ways. The scheme will not start until early next year, and will apply only on the Hammersmith and City and Circle Lines.

This leaves the District, Central, Bakerloo, Piccadilly and Northern Lines and London Transport's newest, the Jubilee Line, without one-man operation.

London Transport plans to have one-man operated trains on all lines by the end of the century.

The immediate aim of the move is to increase productivity. But London Transport also expects to see more regular train services on the Hammersmith and City and Circle Lines. The improvement would come from fewer cancellations owing to sickness, London Transport promised yesterday.

Three-quarters of the costs of operating the system are labour costs. Cutting the operating crew from two to one is an obvious saving, but this is countered partly by the weekly 7½ per cent bonus payment on basic pay for all railway operating wages-grade staff eligible to become drivers of the one man trains.

For the next two years, the redundant guards will be found other jobs in the service, but gradually, numbers will be reduced as people retire.

Mr. Maxwell said yesterday that the bonus payments would contribute to a £1m loss on the Hammersmith and City and Circle Lines for each of the first two years of the new scheme.

But the executive was prepared to support this loss, in the hope that the lines would break even after two years and that the more efficient railway and increase in passengers would eventually pay off.

The first of the purpose-built rolling stock suitable for converting the District Line to one-man operation is now being delivered. London Transport aims to convert this line in 1981.

The next phase will be the conversion of half the system by 1990, when "very handsome returns" from one-man operation are expected, Mr. Maxwell said.

These targets, however, are a long way off, particularly when it is recognised that this year's first scheme is a pilot venture, to be reviewed by both sides after six months.

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Biffen defends monetary policies against critics

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

MR. JOHN BIFFEN, the Chief Secretary to the Treasury, yesterday strongly defended strict monetary policies against the views of "influential policy-makers" and "*fair-weather* faint-hearts."

In a speech to the North-West Area Conservative Women's Conference at Lancaster University, he put forward a more *full-blooded monetarist* case than might be supported by some of his ministerial colleagues and official advisers.

Mr. Biffen argued that oil had provided the false alibi for inflation so often used by Western politicians over the past decade.

The view that an increase in the price of oil produced a consequential general price rise throughout the economy—"commonly and widely held by influential policymakers in the UK"—is bunk.

"It is deceptively dangerous bunk—designed to enable the politician to transfer part of the blame for our domestic inflation upon the swarthy foreigner." Mr. Biffen said the recent report of the General Agreement on Tariffs and Trade (GATT) secretariat supported his argument.

He argued that the key to inflation was sound monetary policy. Only such an approach enabled "an economy to accommodate a sharp rise in a specific commodity, such as oil, *without* a subsequent rise in prices generally.

"That policy can succeed only if public spending is stabilised and government borrowing eventually reduced so that interest rates strike a level which enables credit to perform its legitimate commercial role."

Mr. Biffen said Parliament would be told quite soon of plans for public spending which *will be designed to ensure much* more realistic projections for the next few years. This will be an indispensible precondition to securing the economic circumstances for lower interest rates.

He *stressed* that the real test of this policy lay in the determination of the Government to persist with it when "the fair weather faint-hearts fall aside.

The Prime Minister and the *Chancellor of the Exchequer* have set their minds and wills to see that a policy of sound money, thrift and enterprise will get a proper opportunity. The vindication of such a policy will need time—a politician's most precious commodity."

Labour calls for Scottish rate rises

By Ray Perman, Scottish Correspondent

THE LABOUR Party in Scotland yesterday launched a *campaign* against Government spending cuts. It urges local authorities to minimise the effect on services by increasing rates.

Labour controls four of Scotland's nine regional authorities. Already the two largest, Lothian and Strathclyde, have said they will not make cuts in all the areas outlined by the Scottish Office, but will try to maintain the level of services.

Mrs. Helen Liddell, Labour's Scottish secretary, said the party was not calling on local authorities to break the law by refusing to make cuts. But it was asking them to do everything possible to reduce the effect of cuts on the elderly and the needy.

Wherever possible, rates and charges for services should be increased rather than the level of service reduced.

A party document says that Scotland will be particularly hard hit by cuts in local services and aid to industry. A level of public expenditure about 20 per cent higher than the national average has been crucial to narrowing the gap between Scotland and the rest of the country in growth rate, employment levels and earnings.

The document estimates that £500m could be cut from spending in Scotland by autumn, 1980. An immediate target of £150m has already been set; at least another £175m is to be cut from Scottish Office services. The rest will come from reductions in expenditure on nationalised industries, universities, regional development and other projects financed in Scotland by UK departments.

The clash between local and central government over spending is the first of several expected by Labour. Another is foreseen over the sale of council houses, if the Government decides to pass legislation to override the reluctance of Labour district councils to carry out Government policy.

Chrysler strikers ignore Ryton closure warning

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

CHRYSLER UK workers voted in Coventry yesterday to continue their 11-week strike in spite of a management warning that it could mean closure of the Ryton plant.

Nearly all 2,000 employees from the plant which assembles the Alpine model, attended the mass meeting and gave overwhelming support to shop stewards who recommended that the action should continue.

Union leaders revealed during the meeting that stewards at the neighbouring Stoke engine factory—where 3,100 workers walked out 10 weeks ago over the same pay dispute—had pledged support to fight any move to close Ryton.

Mr. George Turnbull, chairman of Chrysler UK, warned last week that closure of Ryton could be necessary "in weeks rather than months" unless the dispute was settled quickly.

He insisted that the only way to higher earnings would be through a self-financing incentive scheme. The company, taken over by PSA Peugeot-Citroen at the beginning of the year, has offered a 5½ per cent wage increase in reply to the workers' demand for more than 20 per cent.

Mr. Tony Lloyd, the engineering union convenor, at Ryton, warned workers yesterday that Chrysler might take the decision this week to close the plant. But he insisted that the conditions attached to management's offer were "intolerable and completely unacceptable."

● Vauxhall Motors yesterday held confidential talks with plant and national union officials on a pay dispute which has halted all work at the company's Ellesmere Port factory on Merseyside. The company has offered increases worth 17 per cent.

Merchant Navy officers want 25%

By Nick Garnett, Labour Staff

UNION NEGOTIATORS representing 41,000 Merchant Navy officers yesterday submitted a claim for increases of 25 per cent on pay rates, and longer holidays.

The unions also told employers that they were dissatisfied with the existing national negotiating system and might attempt to move to company-level negotiations.

Mr. Eric Nevin, general secretary of the Merchant Navy and Airline Officers Association said the unions did not see much room for manoeuvre in the claim, which includes a substantial improvement in holidays as a move towards a scheme of one day on, one day off working.

The unions said the claim's pay element was aimed at maintaining the value of last year's settlement and was based on increases in the Retail Price Index.

Mr. Graham Turnbull, leader of the General Council of British Shipping said the council believed the figure of 25 per cent overstated the position.

The unions said the level of pay settlement in the industry had been brought down to that of what the weakest company could afford. The general council said yesterday that national settlements involved pulling up many companies to a pay offer, the level of which they would not otherwise have reached.

A settlement for this group is due in November. Average earnings are just under £12,000 a year for masters, £11,000 for chief engineers, £7,000 for second deck officers and £5,000 for junior engineers.

£20,000 offered for micro inventions

By John Lloyd

A COMPETITION to find the best invention which uses a microprocessor was launched jointly yesterday by the National Research Development Corporation and the National Computing Centre.

It is the second competition of its kind this month. Last week, *Peterborough Development* Corporation offered a similar sum, much of it in the form of rent-free factory space, for a novel microprocessor-based device.

The latest competition will be open to individuals, institutions and companies — including foreign-owned subsidiaries—based in the UK.

The prize money totals £20,000, split between two categories. The first, for entries with a working model, will attract a first prize of £10,000, with second and third prizes of £5,000 and £2,000. The second, for entries where a working model cannot be demonstrated, has a first prize of £2,000 and a second *of £1,000.*

Mr. William Makinson, managing director of NRDC said that in the field of microprocessor application, the UK "is not doing enough and it is not going rapidly enough." He had been "very agreeably surprised" by the interest shown by companies in the new technology, and in the number of applications to the Government for assistance under the various support *schemes.*

"The late 1970s sees Britain with only one surviving major mainframe manufacture in competition with the American giants. Whether we like it or not, we must also face the fact that the world of microelectronics has its centre of gravity many degrees west of Greenwich. The challenge now is to make our strength the application of this new technology.

Suppliers to discuss telephone sales move

BY ELAINE WILLIAMS

TALKS ON the implications of the Government's decision to end the Post Office monopoly on the supply of equipment to telephone subscribers will start *later this month.*

The talks, between the Department of Industry and main Post Office contractors, will include Standard Telephones and Cables, Plessey, the General Electric Company and unions within the telecommunications industry.

It will take at least until the end of the year to complete the discussions. The Department of Industry will wait until the Monopolies Commission reports its findings on the postal side *of Post Office activities before* discussing how the split of the two divisions will work in practice.

So far the three main equipment suppliers have expressed a mixture of reactions about the end of the equipment monopoly.

Standard Telephones and Cables, the UK subsidiary of U.S. International Telephone and Telegraph, is enthusiastic about being able to offer a wider choice of equipment to users, provided it is suitably approved.

Relaxing the monopoly will allow a larger range of telephones on to the market. Telephone answering machines, facsimile equipment—which allows the transmission of pictures and typed documents over the *telephone network*—and automatic dialling systems can also be offered directly to the consumer.

STC believes ending the monopoly will benefit consumers and manufacturers. It wants to see a quick but orderly transition from a monopoly to a competitive market. This will give present suppliers time to adjust to changes in dealing with the Post Office.

But Plessey, another major Post Office supplier, is more cautious. Mr. Des Pitcher, managing director of Plessey Telecommunications and Office Systems, said: "We have noted the change with interest and *look forward to promised consultations.*"

Standards

General Electric, the third supplier, has refused to comment until it has assessed the situation more thoroughly.

Ending the monopoly does not mean that any manufacturer will be able to sell telephone equipment for people's homes.

Equipment will still have to come up to the standards set by the Post Office or any other regulatory body in control of standards, to ensure that it does not affect or degrade the overall telephone network.

Women buy more wine than men, says Stowells

BY OUR CONSUMER AFFAIRS CORRESPONDENT

WOMEN ARE taking over *from men as the main buyers* of table wines for home consumption in Britain, according to figures released yesterday by the Whitbread wine subsidiary, Stowells of Chelsea.

Stowells said market research showed that about 26 per cent of all wine was bought by women and 19 per cent by men. The rest was bought jointly by husbands and wives, but the choice was clearly influenced by women.

Wine sales total £1.65bn a year in the UK.

Mr. Norman Webber, Stowells' sales and marketing director, said yesterday: "Everyone in the wine business will have to consider the influence of women when marketing wine—or they will forfeit sales."

Stowells is changing its marketing strategy to give its wines more appeal to women. Two of its major brands—Corrida and Toujours—will *shortly* be selling under new labels designed to appeal to women.

The growing importance of women is largely because of the rapid increase in take-home sales as well as the bigger demand for dry, white wines.

Whitbread's take-home sales rose by more than half last year as more supermarkets and other High Street outlets made wine more easily accessible for *the housewife.*

In the first five months of 1979, white wine sales rose by more than a quarter to reach 10m gallons. Stowells predict that the lighter- drier, Riesling-style wine will be the real growth area in the UK light wine market.

For this reason Stowells shortly plan to sell a white wine from Czechoslovakia. The company claims that this wine—St. Hubertus—will be the first Czech wine to be introduced nationally.

Isle of Man row over radio frequencies

By Arthur Sandles

THE ISLE OF MAN may set up its own broadcasting licensing *authority to allocate frequencies.* This move follows a row between the Manx Government and London over broadcasting on the island.

Relations worsened when the British Government refused to allow the Manx Broadcasting Commission to send an observer to a frequency conference in Geneva this month.

The Manx Government's case is that Britain gave the island VHF and medium wave frequencies *which were believed to* be exclusive but then also awarded the medium wave frequency to local radio stations on the mainland.

Panda and Z-Car man dies at 73

THE MAN who introduced the police Panda Car, Mr. Bill Palfrey, died last night aged 73.

Mr. Palfrey, former Chief Constable of Lancashire, was involved in another famous name—*the* Lancashire force's Z-Car patrols, which became a household name through the BBC *television series. He also* equipped all his officers on the beat with two-way radios. Previously they had had to rely on the telephone.

Campaign to help the disabled

GOVERNMENT ministers, Sir John Methven, Director General of the Confederation of British Industries, and Mr. Len Murray, General Secretary of the TUC, combined forces yesterday to *launch a campaign to improve* job prospects for the disabled. They toured an exhibition on board a train carrying the message to 12 cities that employers need to know more about the disabled.

Mr. Jim Prior, Employment Secretary, Sir Keith Joseph, Industry Secretary, and Mr. Reg Prentice, Minister for the Disabled, were at the exhibition at Marylebone Station, London.

Mr. Prior said there has always been a feeling in society that disabled people cannot do jobs "and that's wrong." He said the quota system which obliged employers to take on a percentage of disabled people *had not worked well.*

Mr. Murray said he hoped to see trade unions talking to employers regularly about the kind of jobs disabled people could do.

The Fit to Work campaign, launched by the Manpower Services Commission, will cost about £350,000 and aims to tell employers about facilities such as grants which are available for special equipment for disabled people.

There are 1¼m disabled people in the working population of Britain, and another 130,000 are out of work.

AUEW may debate its stand on Labour Party reforms today

BY OUR LABOUR CORRESPONDENT

THE Amalgamated Union of *Engineering Workers' national* conference may debate today how the union is to cast its block vote on the proposed reforms of the Labour Party at the party conference next month.

No mention on the subject appears on the agenda for the union's conference, which opened in Eastbourne yesterday, but efforts were being made last night to persuade the standing orders committee that the subject should be dealt with through an emergency motion.

The conference could not instruct the union's Labour Party delegates on how to vote on reselection of MPs, election of the party leader and preparation of future Labour manifestos. But Left-wing members of the delegation would see a vote from the Left-leaning conference as a strong bargaining factor on their side when the delegation meets in Brighton before the conference to decide its position.

The Left is already cautiously optimistic that it will have a majority on the big engineering section delegation, although the union's executive is now under Right-wing control.

A decision at the conference yesterday may make it more difficult for union leaders to persuade workers at Robb Caledon, Dundee, to accept the rundown of their shipyard. Delegates unanimously adopted a resolution moved by the engineering section division covering Dundee, instructing the executive to "demand no contraction of the British shipbuilding industry and to support workers fighting to save their jobs."

Workers at Robb Caledon are standing out alone against British Shipbuilders' proposals to shed 6,000 employees although the Corporation and the Confederation of Shipbuilding and Engineering Unions have reached agreement on means of seeking to do this without compulsory redundancies.

Jenkins begins recruiting drive

BY NICK GARNETT, LABOUR STAFF

A MAJOR recruitment drive, based on the job implications of the silicon chip and geared principally towards staff in banking and finance houses, was launched yesterday by the Association of Scientific, Technical and Managerial Staffs.

The campaign broadly coincides with the opening of an ASTMS office in the City next January, merger discussions with APEX next month, and amalgamation talks with one other small TUC-affiliated union and two small staff bodies outside the TUC.

ASTMS, along with a number of other white-collar unions, is finding it increasingly difficult to maintain the growth rate achieved over the last decade.

The recruitment drive has been hit to some extent by the refusal of British Rail and London Transport to carry the union's advertising campaign. Mr. Clive Jenkins, the union's general secretary, said yesterday that this was "monstrous"

British Rail said the decision had been taken by British Transport Advertising, which controls advertising on British Rail and within the National Bus Company.

Sir Peter Parker, British Rail chairman, wrote to Mr. Jenkins yesterday saying the ASTMS campaign would meet with total opposition from one of the rail unions, the white-collar Transport Salaried Staffs Association.

Sir Peter's letter says his concern was to prevent an inter-union wrangle which could have "unpredictable consequences" for the railways. The TSSA opposed an ASTMS recruitment campaign on British Rail several years ago.

ASTMS intends ringing rail and Underground stations with advertising on the micro-chip, concentrating on City commuters and other financial centres such as Edinburgh and Manchester.

Mr. Jenkins said yesterday that eixsting staff bodies in finance, including (though not specified by name) the Banking, Insurance and Finance Union, did not have the resources to fight a job protection campaign.

Busmen's chief follows Kitson in union post

By Our Labour Editor

MR. LARRY SMITH, leader of the busmen in the Transport and General Workers' Union, was yesterday appointed executive officer, the number three position in the union.

His appointment by the general executive council, may be seen as providing political counterweight at the top of the union.

Mr. Smith, a moderate, and twice a contestant for the general-secretaryship, succeeds the Left-wing Mr. Alec Kitson, who will move up to deputy general secretary when Mr. Harry Urwin retires next year.

His appointment leaves open the important position of national secretary for passenger services.

Union launches school meals campaign

BY OUR LABOUR STAFF

A CAMPAIGN to fight proposed cuts in the school meals service next year has been launched by the National Union of Public Employees.

The union says the proposals will lead to between 30,000 and 45,000 redundancies among the 300,000 women workforce.

It plans to involve other unions in the educational service, the TUC, Labour MPs and parents' groups in the campaign. Last month the union drew up a guide for its 720,000 members outlining industrial action in retaliation against proposed spending cuts.

Mr. Alan Fisher, NUPE general secretary said yesterday industrial action was not planned for the school meals service but there could be difficulties in school kitchens where cuts are being implemented.

Mr. Reg Race, Labour MP for Wood Green said yesterday the Department of Education and Science has said it would be removing statutory obligations on local education authorities over school meals to achieve a 5 per cent cut in public spending for 1980 to 1981.

The cuts, which need final Cabinet approval, would save about £200m a year.

New name on ACAS council

MR. JAMES PRIOR, the Employment Secretary, has appointed Prof. Ben Roberts to the council of the Advisory Conciliation and Arbitration Service from October 1.

Prof. Roberts replaces Prof. Hugh Clegg, who resigned earlier this year after his appointment as chairman of the Standing Commission on Comparability.

Layoffs fear in State pay row

GOVERNMENT industrial workers face increasing layoffs as the selective strike action over the 22-30 per cent pay offer begins to affect operations at defence and other establishments.

A spokesman for Devonport dockyard, which employs more than 12,000 workers, said yesterday that large numbers could be laid off later this week if the action by about 260 crane-drivers, lockgate operators and other staff continued.

Action by the crane-drivers in particular has halted work in some areas of the yard because supplies are not being moved.

About 2,000 workers at the Driver and Vehicle Licensing Centre at Swansea were laid off on full pay yesterday after the centre's computers were shut down last week because of action by maintenance workers who operate air *conditioning* equipment.

All flying at the experimental aircraft establishment at Boscombe Down, Wilts., has been halted after more than 300 fitters and electricians were suspended without pay for refusing to work normally.

Air India dispute ends

AIR INDIA has resumed normal services from London after a month long dispute. Flights have been ending at European airports.

Management and the Transport and General Workers' Union agreed on a return to work formula over the weekend. The deal gives Air India staff pay rates in line with those at British Airways.

THE ITV DISPUTE

Technology becomes key issue

BY GARETH GRIFFITHS

THE EMPHASIS of discussions to end the six-week blackout in Independent Television has changed markedly from the beginning of the dispute. Then, it was a straightforward pay issue. Now the key issue to both sides is new technology.

New technology in broadcasting has taken on much of the emotive content the term has acquired in newspaper publishing—indeed the companies make constant reference to The Times dispute.

They see technology as a way of improving programme output, particularly in news and current affairs programmes, and say that television *is falling* behind other countries' technologies.

The television unions, particularly the Association of Cinematograph, Television and Allied Technicians, consider introduction of new technology coupled with reduced manning levels a threat to jobs.

ACTT is well aware of the effects of new media technology because of the rundown of the cinema industry, where thousands of jobs have been lost.

New technology and manning levels are closely linked. ACTT is sceptical of the Independent Television Companies' Association claim that it would mean expanded television production to absorb displaced staff.

Thames Television sends out a team of eight to 10 people to cover a news story. Using electronic news gathering (ENG) equipment the team would at most consist of a reporter, sound recordist and cameraman. ENG gives instant transmission of material on video tape and eliminates processing.

Capital costs of installing the equipment may be much higher than the equipment used at present. Cameras cost £20,000, editing machinery £30,000, transmission equipment £10,000; one television executive has put comparative cost of new equipment to old at 3½ to one.

The companies as a group say benefits of faster service and lower labour costs will mean better programmes. Company spokesmen say it could end *overmanning* and that without it much work, including documentaries, could cease.

Several companies fear that unless they use the present opportunity for a national new technology agreement, the unions can push up pay claims in new agreements on a piecemeal basis. ITV unions have used this tactic with great success.

There are varying reports as to when the new technology issue became crucial to the dispute. The start of the ACTT strike and the lockout of the National Association of Television, Theatrical and Kine Employees and the Electrical and Plumbing Trades Union was simply about pay.

Introduction of new technology and manning agreements by Mr. Ronald Carrington, labour relations adviser to the companies' association, in the third week of the blackout was initially viewed as a way for the companies to pay staff more money.

But by the time of the talks between the two sides under Advisory, Conciliation and Arbitration Service auspices on September 7 this had hardened on the ITV side to a matter of principle; no new technology agreement, no settlement.

ITV managements say they are fed up with what they call the continual guerrilla warfare *of the unions, and in particular* ACTT.

Two companies are apparently keeping the others in line, Paul Fox, managing director of Yorkshire Television, is regarded by many as *the real power in ITCA*, and as wanting to make sure the companies win the agreements they want. Granada is the other tough-liner.

The companies say they are prepared for a deal worth about 16½ per cent, plus 4 or 5 per cent for new technology agreements. Craftsmen in NATTKE would be paid an additional 4 or 5 per cent arbitration award.

The BBC watches the ITV dispute avidly. Many of its senior officials believe ITCA is in one sense fighting their battle for them. A year's ENG agreement with the Association of Broadcasting Staff has not been renewed. The corporation is engaged in "delicate" negotiations with the union about new equipment.

Team promotes hydrogen as aircraft fuel

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

A TEAM of international experts from seven countries including the UK is to explore ways to promote liquid hydrogen as an airliner fuel in the 1990s and beyond.

This follows last week's four-day conference in Stuttgart, sponsored by Lockheed Aircraft of the U.S. and the West German aerospace industry, at which the possibility of using liquid hydrogen as an alternative to petroleum fuel in civil aviation was discussed.

The conference, attended by more than 100 delegates from aviation and related industries from the U.S., UK, Canada, France, Japan, Saudi Arabia, Switzerland and West Germany, agreed that the matter should be explored further.

All the countries attending, except Saudi Arabia, are represented on the technical team, but Saudi Arabia is expected to be invited to join soon.

The team's objective is to convince governments that they should ask the International Energy Agency to start an experimental programme, lasting several years, to study the use of liquid hydrogen. The venture would be funded by the participating governments.

One idea, put forward by Lockheed Aircraft, is for a small all-cargo airline to be set up, using modified TriStar airliners, and flying regularly between the U.S., the UK, West Germany and Saudi Arabia.

This would cost about *£600m* for the four aircraft envisaged, *and all the ground installations.* The aim would be to study in detail the practical possibilities, and limitations, of making, storing and using large quantities of liquid hydrogen fuel in civil aviation.

Mr. G. Daniel Brewer, manager of hydrogen programmes for Lockheed, said in London yesterday that the Stuttgart meeting had agreed that such an airline was feasible, *and that it would be worth* establishing.

The matter was something for governments to consider, since they would have to finance such a venture.

Mr. Brewer said liquid hydrogen was as cheap as jet aviation fuel, and it would become cheaper. It was also a more efficient fuel for aviation than either synthetic jet fuel derived from the liquefaction of coal, or liquid methane.

Nuclear power was no longer considered an alternative to liquid fuels for airliners. It would be too heavy and too expensive to develop and use.

Pending the success or otherwise of the international team in convincing governments of the need for liquid hydrogen experiments, Lockheed would continue its own research, at its own expense.

Members of the technical team include Mr. Willis Hawkins, Lockheed, U.S., Dr. K. G. Wilkinson, deputy chairman of British Airways; Mr. E. Simon, Lufthanso; Mr. A. S. Strub, EEC; Mr. J. Plenard, Air Liquide, France; Mr. C. J. Winter, West German Aerospace Industry Research Association; Mr. E. E. Ecklund, U.S. Department of Energy; Mr. G. G. Kayten, National Aeronautics and Space Administration, Washington; and Mr. Neil Gore, Canadian Department of Transport.

اهكذا من الأول

Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

● SOFTWARE

Teaching computers to speak English

REPORTED ON briefly in this page late last year, the Djinni method of controlling a computer by simple instructions in plain English has come a long way since then. Several commercial applications are running and can be demonstrated. In particular, they will be shown in operation at the Northeastern Computer Show in Boston, Mass., towards the end of this month.

The most important thing about Djinni is that it does not compel a computer user to learn a formal—and frequently convoluted—language and procedure before working on a computer equipped with it. This stems from the fact that an instruction can be phrased in several ways provided it remains in simple English—for instance: Multiply item 3 by item 4 to get item 5 or; item 5 is the same as item 3 times item 4 or again; calculate the product of item 3 and item 4, this is item 5, etc. etc.

So far Djinni-B understands 110 English words. It also understands 30 largely computing orientated concepts such as "add, copy, print, subroutine," etc.

It will deal with a limited context of statements about variables and their relations; the special variables are not included in the basic vocabulary.

There are, for the time being, a number of rules to be learned, largely dictated by the equipment to be used. But these are not numerous nor are they complex.

What the Djinni black box does is to evaluate statements in English, decide on their meaning and automatically translate them into the CBASIC language. It also operates in reverse to produce statements (automatic documentation) in plain English.

Developers of the method say it can be equated to the work of a department manager giving an instruction how a job is to be done to a new clerk.

Further from Berkeley Enterprises, 815 Washington Street, Newtonville, Mass. 02160. U.S.

● ELECTRONICS

Work tool for many users

DESIGNED in order that there should be no hiatus during a development or in day to day performance, and also accommodating the varying needs of up to six separate people in simultaneous projects, is a logic development system by Hewlett Packard, King Street Lane, Winnersh, Wokingham, Berks (Wokingham 784774).

Code-named Pisces, the 64000 aims to take the mystique out of microprocessor-based product design.

Because up to six team members are able to use the development system *harmoniously without affecting* the others' workloads in developing hardware and software, it is possible to co-ordinate and complete projects without loss of time or function.

In this "magic box" syntax errors are virtually eliminated with directed syntax and soft keys labelled by the screen, and powerful workstations sharing a hard disc store.

With storage capacities from 20 to 120 Mbytes, this approach is said to provide easy and fast access to a very high performance operating system (occupying some 200,000 bytes) plus virtually unlimited storage for program development.

The system architecture allows broad support of currently available microprocessors and anticipates new trends in the market—such as 16- and 32-bit devices.

Four widely used units—Intel 8080, 8/85, Motorola 6800 and Zilog Z80—are fully supported.

Emulators for other microprocessors are under development, *says the company*, and will shortly become available.

Basic system comprises an H-P hard disc, workstation and printer and up to five additional workstations can be added at any time without interrupting on-going development programs. However, systems can be designed to match a customer's current needs and, says H-P, expanded without difficulty to meet growing demands.

● IN THE OFFICE

Chips for the property men

THE SENIOR partner in a rather reactionary surveyors practice may baulk at the thought of micro-technology entering his life (without knowing that the magic chip has already made his wife's aquaintance on the home-front). It could, however, revolutionise his day to day routine, save valuable hours of office time and also cut down unnecessary tedium.

Now available to the surveyor, quantity surveyor, estate agent (and those connected with these professions) is an advanced programmable calculator whose micro-memory has 33 programs covering metric conversions to the most complex moving averages.

Called the Micro Owl, it is based on a Texas Instruments programmable calculator which can be adapted for specific application by changing a tiny silicon chip programming module inserted in the back of the calculator.

It is the first module actually designed for UK surveyors' practices and has been produced with the backing of "Estates Gazette" with programs designed by consultant surveyor Nick Noton (who developed the project from his use of a T159 calculator to write programs for his own use).

The programs are split into five sections—general purpose, valuations, special surveying functions, office aids, mathematical aids. General purpose programs include calculation of areas (no scale plans are necessary), metric conversions, and measurement of premises.

The valuation section features discounted cash flow as well as years' purchase calculations for freeholds and leaseholds with every possible permutation of tax and sinking fund. Special surveying functions range over estimating and quantities, data storage, levelling, contour plotting, U-values, drawing, drainage, forestry and grant deductions.

The Micro Owl can be used by itself on site, for finger-tip information, or on a desk top with its printer (then the figures can be incorporated in a report).

Cheering thought for the first-time user — the operating manual completely dispenses with gobbledegook and is written in good, plain and often friendly English.

Micro Owl, The Manor House, Morcott, Uppingham, Leics. (057-287 478).

DEBORAH PICKERING

Muirhead's fast facsimile machines

K6400 facsimile transmitter by Muirhead is one of the most advanced analogue machines of its type in the world. It competes on speed with digital machines, which are considerably more expensive.

Four speeds are available in the one machine—30, 45, 60 and 180 seconds (for a standard A4 document). *No other comparable machine* (CCITT Group 2) can transmit as fast as 30 seconds and speed is increasingly important to combat the escalating cost of telephone line time.

The K6400 incorporates the "T30" facility which means it can communicate with any other manufacturer's Group 2 machine at the flick of a switch.

The K3000 is a digital machine that can deliver a high quality facsimile in as little as 15 *seconds (for a standard A4* document). Solid state operation—*including solid state scanning*—ensure utmost reliability.

The K3000 has been designed *as a stand alone unit* for the high speed transmission and reception of mail, either locally or internationally, or, in conjunction with Muirhead computer/facsimile interface equipment, as an input/output device for computer stored data—particularly in word processing systems.

A third unit that will be launched at Telecom 79 in Geneva is the upgraded K442G-T30 analogue facsimile machine.

Prime improvement is the incorporation of the T-30 facility for completely automatic recognition of, and communication with, any other type of facsimile machine in either *CCITT Group 1 or 2.*

The K442G-T30 allows the *sender to choose the transmission speed* to suit the document by presenting the operator with an illuminated display of the alternatives available—depending *on* which type of machine it is sending to. It has four basic speeds—2, 3, 4 and 6 minutes (for a standard A4 document) but with an additional 6 minute high resolution speed designed to handle documents containing detailed graphics or fine print.

Its "auto-answer" facility means reception can be made automatically. An operator at the receiving end is not required.

Muirhead Data Communications, Beckenham, Kent BR3 4BE. 01-650 4888. 965 8911).

● AUTOMATION

Paper-making under micro control

NRDC SAYS a new unit by Boyle Industrial Gauging Systems is the most advanced paper-making machine control system to be offered by a British manufacturer.

Developed with the assistance of an investment of over £100,000 by NRDC, it compares favourably in cost and performance with imports and will be unveiled at a conference and exhibition to be held on September 18-20 at Great Danes Hotel, near Maidstone, Kent, organised by the Institute of Measurement and Control.

Boyle is already established in the paper-making industry with a range of basis weight and moisture gauging systems. The new equipment, System 380, utilises the latest microprocessor and software technology to produce a gauging and control system that includes all the features required for efficient and economic running of the paper-making machine.

It has multi-loop automatic control, multi-colour visual displays and process analysis facilities. A further facility, believed to be unique, is the use of distributed intelligence using multiple computing elements to achieve the data processing power usually confined to relatively large central minicomputers. It also provides three-wire communication between the various parts of the system; this allows optimum location of the video displays, operator communication keyboards and digital displays for control and management monitoring, without incurring excessive cabling costs.

Boyle Industrial Gauging Systems, Northfleet, Kent DA11 9NE. 0474 64794.

● RESEARCH

Better bubble film

NEW TECHNIQUES for *tailoring* the properties of magnetic bubble materials by laser annealing, followed by rapid cooling to freeze-in the annealed structure, have been developed by scientists of International Business Machines.

They are based on the fact that a laser beam can heat a small region of material to a high temperature so rapidly that the surrounding material remains cool. As the laser is scanned across the material, the regions that have been heated cool so rapidly that their high-temperature structure is retained.

Potentially an extremely versatile tool for tailoring the properties of thin film materials, the *laser technique* allows a sample to be heated precisely to a temperature at which a desirable change in crystal structure occurs.

In magnetic bubble films of gallium-substituted yttrium-iron-garnet, the technique can produce a redistribution of the sites occupied by gallium and iron atoms. The redistribution of atoms results in a film in which bubble domains are smaller and thus allow a given *film area to store more data.*

The film is undamaged in the process, as shown by the fact that it returns to its original state when annealed in a furnace.

IBM, Research Division, POB 218, Yorktown Heights, New York 10598, U.S.

● COMPONENTS

Sharing out the know-how

IN A MOVE that will save a great deal of development money Motorola Inc and Rockwell International Corporation have made an exchange and alternate source agreement covering Motorola's MC68000 microprocessor and Rockwell's 256K-bit bubble domain memory products.

The agreement provides that Rockwell's Electronic Devices Division will receive technology enabling it to produce and independently market the Motorola MC68000 16-bit advanced microprocessor and selected family devices at its Anaheim and Newport Beach, California, facilities.

Motorola's Semiconductor Group, Phoenix, Arizona, will receive technology to produce and independently market Rockwell's 256K-bit bubble memory devices, one Megabit linear memory modules and control modules.

Motorola will also be a source for certain support circuits designed for production applications of the bubble memory devices.

The agreements also provide for adding future devices and *software products* in both bubble memory and M68000 microprocessor families.

Rockwell International is at 3310 Miraloma Avenue, POB 3669, Anaheim, Calif 92803, US.

● METALWORKING

Push in robot welding

BRITISH ASSOCIATES of the two big Swedish groups ESAB and ASEA, respectively major forces in the *electrical/electronics* world and in welding technology, have decided to join forces and actively market welding robots in Britain and Eire.

Apart from marketing, the partners will provide the kind of technical and after-sales service that tentative users in this highly specialised area require to make a success of an automated venture.

ASEA has been supplying its 6 and 60 kg capacity robots—which are of the intelligent types with microprocessor controllers — in a number of countries, including Britain. They are being applied in many "dirty" industrial operations, including fettling and deburring, as well as looking after feeds to diecasting machines, bagging chemicals, checking the dimensions of engineering products, as well as spot-welding and heavy duty continuous welding tasks.

The main effect of the agreement between the companies will be a closer integration of *the two arms of the robot welding* equipment side.

In the meantime, ASEA has announced the development of a new low-cost thyristor specifically for welding applications. Electrical ratings include a surge current of 5,500 amps peak and designs are available for voltages of 400 or 600.

Two new power thyristors, one for inverter applications at mains or medium frequencies, and the other for very high power converters, have also been brought out by ASEA.

The inverter unit is rated at 240 amps and in voltage grades from 400 to 1,200.

The thyristor is a heavy-duty unit coming in voltage ratings of 2,200 to 2,600 or 2,800 to 3,600 and mean current ratings of 2,350 and 1,700 amps respectively.

ASEA is at 01-930 5411 and ESAB at Medway 34455.

● CONSTRUCTION

Specialised production building

A NEW approach to relocatable buildings, specifically to meet the special requirements of the electronics industry, has been *introduced* by *Freeline* of Skipton, Yorkshire.

Production standards within the electronics industry have to be very high. In order to measure voltage to less than 10 nano-volts and capacitance down to minute fractions of a farad, it is advisable to have an isolated room with a distortion-free environment and its own power supply.

Freeline modular units can provide a controlled environment, free of dust and humidity, and they can also be completely isolated and even moved to an area without static reference.

These units consist of a steel space frame with ring beam end uprights and box ply beams to provide a ceiling void and sloped roof. The void keeps down solar heat gain by venting the roof space and can also be used to house services and as an air conditioning plenum chamber.

Walls, which incorporate foam *insulation*, are of *Stelvetite* panels, or other internal finishes as required by the application.

All joints — wall to ceiling, wall to wall, and wall to uprights — are thoroughly sealed and can be double or triple sealed to support positive or negative air conditions.

Standard flooring is of welded vinyl, but other types of flooring can be fitted to the customer's specification. Ceilings are finished in either tiles or laminated melamine board.

Freeline modules, which can be joined together to give a variety of building configurations, are delivered on site ready for rapid completion. Where the customer requires it, modules can be fully fitted out prior delivery.

Freeline, Snaygill Industrial Estate, Keighley Road, Skipton, Yorkshire (0756 5719).

THE JOBS COLUMN

A desperate, but 'hugely enjoyable' gamble

BY MICHAEL DIXON

AS THE clock neared six on Saturday evening, Neil Tomkin was in danger of being driven out of business by his competitors from Sweden, Denmark and Ireland.

All his previous experience, culminating in the profit improvements manager's job at Rank Xerox, had trained him against desperate gambles. But the latest marketing intelligence tempted him to try one.

Consumer demand was clearly voracious, probably considerably greater than the combined stock and production capacity of himself and the competing companies. Yet nobody was charging prices of more than £55 or so.

The idea of trying to exploit the surplus demand by raising his prices, suddenly became irresistible. He hoisted his charges everywhere to £63.

"It's no use messing about in this sort of business," he told me shortly afterwards. "You're either the best, or you're nowhere. If the risk I've taken comes off, then I'll beat them all. If it doesn't, they'll trample all over me."

And, as it happened, they trampled. When the results of the seventh European management championship were announced at the Inter-continental Hotel in Paris on Saturday night, the half dozen men who stepped up before the cameras to receive the trophy were the national champions of Ireland: accountants and planners from Irish Cement. But *their final post-tax profit of* £5.4m had left their counterparts from Sweden only £51,000 *behind in second place*, and the Danish champions in third with £5.3m. Mr. Tomkin's rapacious price increase had left him cold stone dead in the market and, as UK champion, fourth in Europe with a profit of £3.9m. The winners of this year's national competitions in France and in West Germany had both been knocked out in the European contest's qualifying round.

Single-handed

But there was much *sympathetic* applause for the Rank Xerox profit improvements manager. By contrast with the teams of four to six people which had come forward from the other nations, Neil Tomkin had been competing single-handed.

So ended another series of the computer-based management championships which have developed, and not just in Europe, since the first nationwide contest was staged in the UK in 1970 by the Financial Times, ICL and the Institute of Chartered Accountants in England and Wales. And so begins the next series because, from this morning, the lists are open for entry to the 11th UK championship in which play will start with the new year. It is an "all-comers" contest, because not until the final when all but *four* of the entries have been eliminated, do teams have to be physically present all in the one place; each of the previous knock-out rounds is played by post or, in case of need, by telex or telephone. The 1979 UK contest, won by Mr. Tomkin in July, included entrants from as far away as Japan.

When the entry lists for the 1980 national championship close about 10 weeks hence the competing teams (there were 1,007 of them last year) will be divided by the contest's administrators into "playing groups" each consisting of three, four or five entrants. All will receive a set of accounts and a market report representing a company and, at the outset of the first *and* each succeeding round of the competition, all the companies will be in the same business position.

The product which these businesses make, develop and sell, behaves in the market like a consumer-durable. Nobody has yet bothered to define the product more closely, perhaps because the players have been too busy deciding whether to produce more of it, and if so, how much of their accumulated or borrowed cash to spend on expanding as well as running their factory. At the same time they need to decide how much to *invest in marketing, distribution*, research and development, management consultants *of one sort* or *another*, or even industrial espionage.

There is also the problem of what prices to set in the various markets. In each playing group, every team has a home market in which it has the advantage of cheap distribution, and it can also sell in its competitors' home territories and in a "free-trade" market where conditions are the same for all teams. *Occasionally they may compete,* too, for a bulk order put out to tender by the Government, as impersonated by the administrators of the contest.

When the team has made these decisions, they are sent to the National Management Game's headquarters. There they are fed, together with the decisions of the other sides in the same playing group, into the computer which has been programmed with a model which can arrange not only for changes *in broad economic conditions*, but also for strikes, factory fires and other irritations. *The result is* a set of print-outs showing each team in the playing group how its *business* has been affected by that particular "play." Every team then has to decide what to do next. At the end of five or six plays the round ends, and the team in each group which has accumulated the biggest profit goes forward to the next stage of the championship.

War of wits

Readers who fancy their chances in this kind of battle of wits should inquire further of the Administrator, National Management Game, Victoria House, Southampton Row, London WC1B 4EJ—telephone 01-242 7806. No doubt, as usual, a high proportion of entrants will consist of players who have *taken part in the past*, and they presumably know why they are willing to pay £75 for the privilege of repeating the experience.

The attraction cannot be only *the prize money* which, for the next UK championship, will be generally raised. The winners will receive £2,000 plus two days at Management Centre Europe in Brussels, the second £1,000, the third £750, and the fourth £500. The champion team will also represent the nation in the 1980 European championship in Copenhagen.

As to other attractions . . . well, employers have increasingly sponsored bulk entries as part of their management training programmes, and players who have reached at least the semi-final—they generally play under pseudonyms up to that point—have told me their success in the game has certainly done no damage to their real-life careers.

But the most general attraction is probably typified by Neil Tomkin's enthusiasm for returning to the starting line again. Even though he had been trampled on in Europe, he said, he had enjoyed the whole thing hugely.

Next time, however, he will not be single-handed—the rules now require every entry to con*sist of at least* three players. Nor will he again be so tempted to use the price-raising ploy which he adopted late last Saturday. No longer will the game's potential customers be absolutely determined to buy at any price. From now on, if supplies of the product fall short of the market demand, at *least half of the would-be buyers* will decide to do without.

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هكذا من الأصل

Ian Hargreaves travels to the United States amid the pared-down economy of a Cunard cargo ship

Stormy times on the North Atlantic freighter run

SINCE July, 1840, when Samuel Cunard's first transatlantic mail ship left Liverpool for a 12-day voyage to Halifax, Nova Scotia, speed and competition have been of the essence in North Atlantic shipping.

For more than a century after this inauguration, Cunard's ships vied with the most luxurious vessels in the history of navigation to record the fastest passage on the North Atlantic, and so win the right to fly the "blue riband."

Today, the blue riband is a prize not worth the pursuit. Its holder, the United States, a magnificant steel and aluminium troopship cum passenger liner built in 1950, languishes at berth in Norfolk, Virginia, technically on standby for military duties, but hopelessly uneconomical for her commercial purpose.

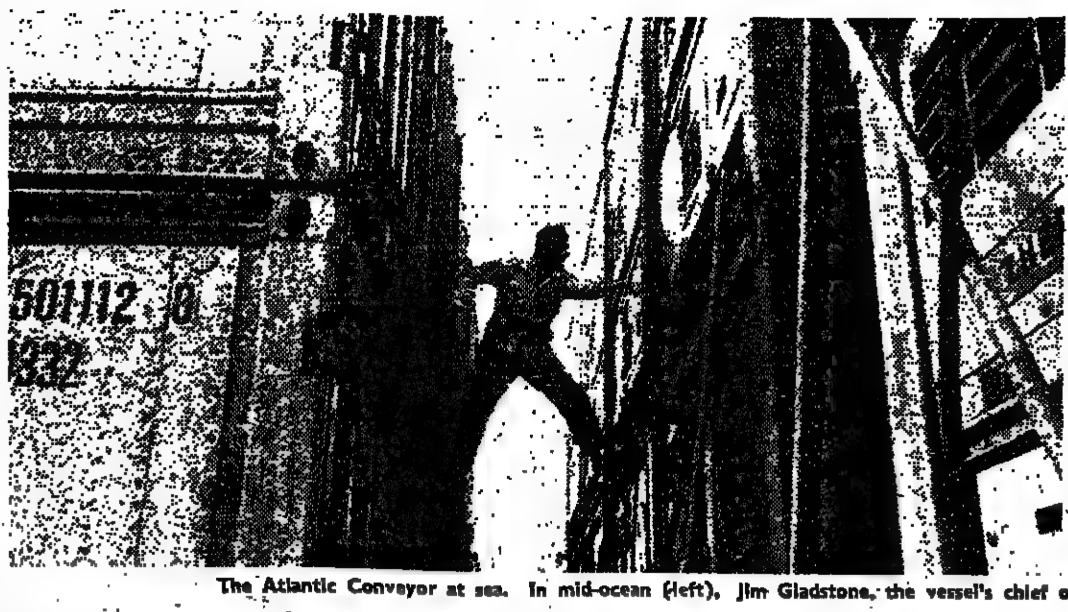
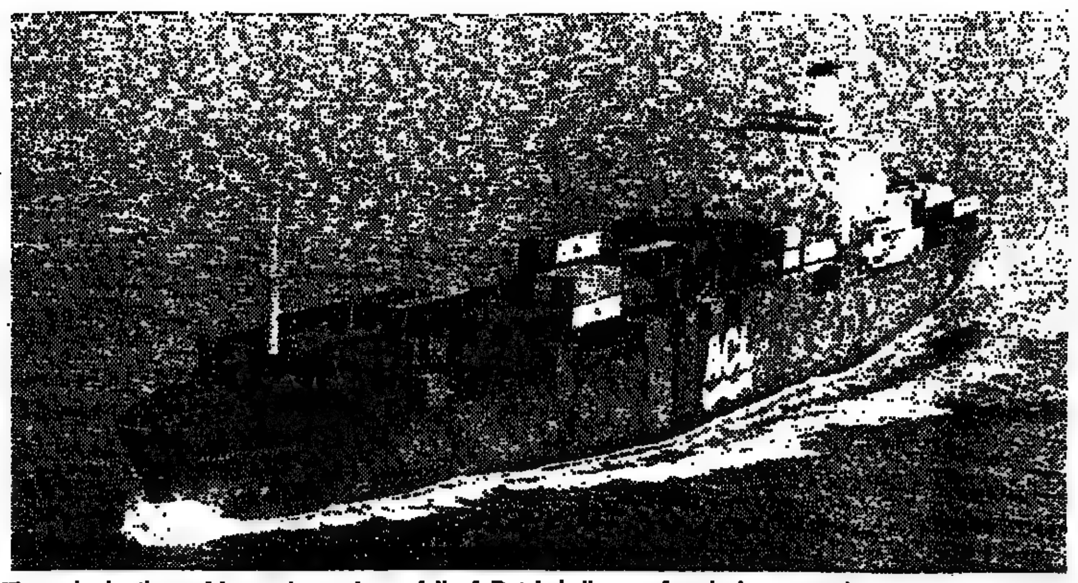
The price of fuel has ensured that the 40 knots which took her on her maiden voyage from the Ambrose light, New York, to Bishop Rock in less than 3½ days, will not be surpassed by any merchant ship of existing technology.

But the end of the days of record-busting has not, for Cunard, meant an end to intense concern with configurations of speed, design and operational economy on what remains one of the toughest sea routes in the world.

Part of this concern, of course, is with Cunard's QE2, the last passenger liner running between Southampton and New York, but of much greater significance is the company's stake in the transatlantic cargo business.

The Atlantic Conveyor, one of four Cunard ships in the European Atlantic Container Line consortium, is not built to be the fastest ship in the water; her intended 24 knots were carefully measured to permit the ship to call at three ports on each side of the Atlantic but still fit into ACL's weekly service on the route.

The trade is tough because it is, or at least it was, rich. In 1973, the volume of trade increased by one-third and in the space of only 13 years, the technology of containerisation and roll-on roll-off shipping (the Atlantic Conveyor offers both) has developed from scratch in a rough and tumble of rivalry unmatched since the heyday of the luxury liners.

The Atlantic Conveyor at sea. In mid-ocean (left), Jim Gladstone, the vessel's chief officer, checks that refrigerated containers full of Dutch bulbs are functioning correctly.

Since 1974, economic recession, more severe in shipping than elsewhere, has put the screw on profitability, with around 90 ships competing for cargo which 50 vessels could comfortably carry. Adding to the difficulties has been a judicial onslaught by the U.S. authorities against the Atlantic shipping companies' joint price-fixing system and a series of upward spirals in the price of marine fuel, whose quality has at the same time seriously deteriorated.

ACL estimates that 61 per cent of the Atlantic Conveyor's approximately $7,090 a day running costs is now used up in filling her tanks twice every round trip with "bunker C," the sludgy substance on which her steam turbine engines operate. Four years ago the proportion was 42 per cent. It is on Cunard's and ACL's ability to wrestle with these negative economic factors at a time when competition, from Russian lines among many others, is getting tougher, that will determine their shape at the end of the recession.

Bedrock

Trafalgar House, which has owned Cunard since 1971, has already sold off its bulk carrier fleet and similar pressures have caused a 25 per cent reduction in Britain's merchant fleet in the last four years. If Britain is to remain a major maritime power, it is the liner interests such as those in ACL which must provide the bedrock.

This gloomy message has certainly got home on board the Conveyor, where a principal subject of conversation among the 38 crew is the threat to jobs and the squeeze on funds for ship supplies. Just before I travelled on the Conveyor, a Cunard economy-hunting team had been on board.

There are not a lot of obvious trimmings to cut. The Conveyor, as her matter of fact name implies, is built for making money rather than to provide a graceful shape on the horizon. Her 212 metres are divided on the sternward side by a seven-high cluster of decks and a single, tubby funnel. Her stern itself is rudely abrupted by an ungainly hoisted ramp for the roll-on roll-off cargo.

Her holds have space for 1,000 cars (on this trip, mainly European-built Fords) and a miscellany of heavy wheeled cargo, from bulldozers to yachts. In addition, she can handle 845 20-foot boxes, four layers of which are lashed to the ship's surface decks with huge, galvanised rods.

On this voyage, a sign of the times as well as the season, she is carrying only around half her maximum 10,000 tons of cargo, but unlike an American competitor we see steaming into Rotterdam, ACL has not taken the trouble to arrange deck boxes in a fence-like formation to disguise empty spaces.

The period in port is frantic as schedules make little allowance for problems and Atlantic Conveyor is already behind timetable after fracturing a propellor in mid-Atlantic a few weeks earlier.

Smaller things go wrong all the time. In Le Havre, where just six hours have been allowed for cargo movement, the ship's main hydraulic system fails, immobilising ramp access to lower decks. Using a fork-lift truck, block and tackle and six pairs of arms, the 165 ton ramp is eventually raised. Remarkably, the ship sails on time.

The crew's normal working day is 11 hours (eight at weekends) and it is not surprising that even when the ship makes an overnight stop at Rotterdam, few go ashore. The 11 hours involves a split shift, spent either scraping rust, painting, watch-keeping, securing cargo or working in the engine room. For senior officers, the pace is less regular, but often equally demanding. In the congested Channel waters, the captain is almost permanently on the bridge and makes do with around five hours of sleep a day.

It is a matter of opinion who has the worst job. Deck work, even in summer, is subject to the rapidly changing Atlantic weather and in winter often involves a night spent hacking ice from ship's winding gear before entering New York.

The other candidate for worst job is in the engine room, where four two-storey high boilers and a labyrinth of hissing, grinding pipes and pistons provide the atmosphere of a turkish bath with grease instead of steam.

Sluggish

ACL seamen, in fact, have a general purpose agreement which means they can be asked to work anywhere. Their reward is higher than average pay—£5,500 for a middle-grade seaman, including overtime. This figure is slightly higher than a junior officer's pay and helps explain why there is so little transition between seamen and officer grades.

The Conveyor's engine room is currently a source of some pride, with the 10-year-old ship consistently achieving speeds of between 22 and 23 knots, since it was discovered that earlier sluggishnes was caused by contaminated boilers. The source of the contamination was poor quality—notably Venezuelan—bunker C, whose deposits have to be chipped from the boiler back every six weeks—by common consent, probably the nastiest job of all. Boilers should require cleaning only once a year.

Fuel is the most serious operational problem for ACL, which is now trying to decide whether to re-engine its six Conveyor-class ships with less thirsty diesel motors. It is also possible that the ships will be cut in half and extended to create more cargo space. This would be an expensive operation, but perhaps cheaper than the $30m it would cost to replace the ship. The Conveyor cost $11m in 1969.

A new engine would save perhaps 30 per cent on fuel, but would mean extra maintenance and more time in port repairs. At present, most repairs are done by the crew at sea, a task which becomes more difficult as the machinery ages.

These are the circumstances in which officers and crew are resisting owners' efforts to reduce further manning scales. The Conveyor's chief engineer points out that 10 years ago a ship with less than half the power of the ACL vessel had 38 men running its engine room alone, compared with the Conveyor's six.

Likewise on deck work, the men argue that to eliminate the officer in charge of cargo would create unacceptable risks of cargo damage in bad weather. The captain remarks, with no apparent nostalgia, that the days when the master had a steward to put his socks on are well and truly gone.

Apart from these anxieties, most of the crew would not change their lot. Pay is reasonable, leave accounts for about a quarter of the year, food is good and accommodation reasonable. For the seamen, discipline is also much closer these days to that found in an ordinary factory.

Meanwhile on shore, ACL, like most of the big liner shipping companies and especially those on the Atlantic, is struggling to keep its cargo rates in line with inflation. A 10 per cent increase posted last January has been almost completely eroded by customer resistance in a buyer's market.

On top of this problem, ACL has in recent months had to fork out $2m in fines and legal fees because of its brushes with the U.S. authorities, who maintain that the price-fixing system is allowing the liner companies easy profits. As a consequence of this judicial aggression, ACL and others are now also facing a string of civil damage suits, whose potential magnitude is almost anyone's guess.

In these circumstances, Philip Bates, chairman of Atlantic Container Line Services, the Southampton-based lynch-pin of the consortium, needs all the encouragement of a century and a half of Cunard survival on the route. Inscribed upon a silver ashtray in his dockside office is a favourite saying of his uncle, Percy E. Bates, a former chairman of the Cunard Steamship Company. It says: "The future may contain anything, but for myself I carry on in a spirit of reasonable but cautious hope."

Darrell Delamaide on the German businessman-professor at Volkswagen whose title is far from academic

Preaching what he practises

PROFESSOR Friedrich Thomée, the 59-year-old chief financial officer at Volkswagenwerk AG, has found a sure-fire way to keep learning—he teaches. "I always wanted to avoid being a country doctor," Thomée explains, "going out to practice and never touching a book for 20 years. But because there's a lot of things I'd rather do at weekends than pick up the latest academic work on accounting, I've found that teaching provides a very useful incentive for keeping up-to-date."

Thomée says he began giving regular university lectures five years ago, not for his own benefit, but because he felt sorry for many of the graduates who came to work in VW's finance department. "They were so frustrated," he recalls. "They came to VW with their university degrees, but didn't know where to begin. They had to take a back seat to trainees who'd come fresh from secondary school but had spent several years on the job.

Being a man of action, Thomée buttonholed university authorities and asked why their courses couldn't be more practice-oriented. Whereupon the University of Giessen, a renowned institution located in a little town north of Frankfurt invited the motor inustry executive to show them the way practice should be taught. In the winter semester of 1974, Thomée who, as a student, had studied under Karl Schiller, the former super-minister in Bonn, was made professor honoris causa at Giessen and began giving lectures and leading discussions every other week.

Many German executives—for instance, all three chief executive offiecrs of the Big Three German chemical companies—carry an honorary professor title, but most of them confine their professorial activities to an occasional speech. Thomée not only lectures regularly but is the only top business executive known to be entitled to preside over examinations and direct dissertations — although he doesn't normally do so.

Thomée, whose course of study takes place only in the winter semester each year, is conducting a five-course cycle at Giessen — accountancy as a means of corporate planning and documentation, controlling, corporate planning, all three activities at corporate group level, and all three in the context of an international corporate group.

This year, he is negotiating with the St. Gallen business school. A group of St. Gallen students spent two days at VW headquarters with the executive-professor, and now Thomée is considering how to divide his time between the two schools.

He recalls his dismay when he first saw some of his new professorial colleagues in the lecture hall. "You would see 35-year-old men reciting their lecture in a monotone. They put in their 50 minutes and that was it. I think the stress and involvement demanded in management can keep one younger and livelier."

Still some years off retirement, Thomée feels that for his part he has gained much through the discipline involved in teaching. "It's part of the reason that VW now has an accounting system second to none in Germany in terms of incorporating the latest thinking," he claims.

He is now promoting other ways of increasing the interaction between theory and practice. Last May, at VW's headquarters at Wolfsburg near Hanover, his company hosted the second round of "Wolfsburg Talks." Twenty-five academic experts in finance, from universities and research institutes in Germany, spent two days exchanging ideas with 30 members of the VW financial staff. Another session is planned for next May and the annual talks under Prof. Thomee's tutelage are well on the way to becoming an institution.

Friedrich Thomee: felt sorry for the graduates in his finance department.

LOMBARD

Full disclosure by the banks

BY MICHAEL LAFFERTY

THE CONTENTIOUS accounting practices of the British banks continue to plague users of accounts. The latest contribution to the debate comes from IBCA, the banking analysis group which sells its research to banks around the world. IBCA's 1979 statistical comparison of 78 British banks is a useful document, as far it goes: as the authors admit, "the figures from which the ratios are derived lack sufficient precision and comparability, because of differences in reporting methods, for the resulting rankings to be regarded as definitive."

In a similar report last year IBCA declared that the general standard of disclosure in the annual reports and accounts of British banks was "inferior to those in other important banking systems." Despite some effort at improvement by the clearers, the same comment is still said to apply. "Relative to the U.S., UK disclosure remains poor and banks in many European countries provide far more detailed data than are available here."

Judgments

IBCA's criticism applies as much to the presentation of items that the banks already accept should be disclosed, as to the general level of information they provide. "Even where banks seem to take the point that more public information about their operations is justified, they do not use a uniform standard, and widely differing conventions are still apparent in the presentation of both balance-sheets and income statements, demanding many analytical judgments before comparative analysis can be done."

Starting with the clearers and other major banks, IBCA says it is still the case that the large British banks provide less detailed income and balance-sheet information than most other banks analysed. It concedes, however, that the rather sparse information provided by the British banks probably has greater substance than that published by many foreign banks.

The truth is that the UK authorities' approach to bank accounting and disclosure requirements appears to have neither rhyme nor reason. Until 1969-70 all British banks enjoyed the right to have secret reserves. Then, following pressure from the National Board of Prices and Incomes, the London and Scottish clearers agreed to give up their privileges and come clean. At the same time the Companies Act was amended, by statutory instrument, withdrawing the clearers' privileges.

In recent years doubts have been cast on whether the clearers really did adopt full disclosure of profits and reserves after all. Uncertainty centres in particular on the banks' general provisions for bad and doubtful debts, which many observers now believe have more the character of reserves. This view has been further encouraged by the recent Bank of England draft paper on capital adequacy which said it was the Bank's intention to treat general provisions as reserves for prudential purposes.

The clearers apart, it would appear to any reader of the Companies Acts that all other banks are entitled to the exemption, which permits the creation of secret reserves. But this turns out not to be the case. The Department of Trade says that no application for exemption has been granted since 1969. Does this mean that it is the department's policy not to issue any further exemptions? Not so, says a spokesman. "It simply means that no applicant since 1969 has met our criteria." What are the criteria then? "They are not published," said the spokesman.

In practice this means that there are probably three separate categories of UK bank for accounting and disclosure purposes. This hardly seems sensible for a country which boasts the world's most important banking centre. It is all the more anomalous because the banks which operate in London depend to a considerable degree on the published accounts of each other in assessing risks.

It is also illogical at the supervisory level of the Bank of England. The bank, quite rightly, is in the forefront of moves to improve the international supervision of banks through the Group of Ten. It is also extending its own writ to the foreign banks in London. For this purpose it needs reliable accounts, if only to check that the detailed data it is receiving ties in with what is available to shareholders and depositors.

Switching on to channel five

FILM AND VIDEO

BY JOHN CHITTOCK

THERE SEEMS to have been little disagreement in Britain recently about what an appalling summer it has been for television programmes. Still without the strike-bound ITV channel, many viewers have complained about the dull output of BBC1 and BBC2. In desperation, some owners of videocassette recorders have been trying to sift their way through the rubbish by recording better programmes on the auto-clock for later viewing. The trouble is that there haven't been enough "better" programmes to record—leading to the quip that it was "the BBC's way of discouraging illegal TV recording."

Reissues

A few videocassette owners have, in consequence, started to take a more serious look at the programmes now available as pre-recorded cassettes. Nearly all are reissues of feature films or rather dated television programmes, but a few have been made specifically for the so-called videogram market. Since a number of these have been hailed by their distributors as "Britain's first-ever videogram" (and I have seen many such firsts since 1972), perhaps I might be excused for adopting the same rash and reckless claim by now writing the world's first review column of videocassette programmes.

As far as possible, I tried to obtain programmes made specifically for the videogram market—but I have also looked at a few reissues if only to see the kind of picture quality achieved.

The choice during this bleak televisual summer is hardly exciting. Viewers of Sunday afternoon movies on BBC would not be disappointed by EMI's offerings—*The Third Man, Whisky Galore, The Servant, The Lavender Hill Mob* (the latter could also have been seen on BBC in the last week), *Brighton Rock* and so on. Good stuff, but definitely of another era. Meanwhile I viewed parts of their more recent *Swallows and Amazons* (a 1974 film) which was screened on British television not so long ago.

It is a balmy story of children on holiday in the Lake District in the late 1920s. Certainly a decent substitute for some of the off-air American TV-crime rubbish currently on British television screens. But who would pay £40 for such a substitute (the current videocassette price in Betamax and VHS formats)? Better to rent movies wherever possible, but the range available on rental is limited.

One rental outlet is Intervision, which offers feature films on cassettes at about £5 for the first three days. But the choice of good or significant films is limited — *Cries and Whispers, Negatives*, Orson Welles' *Macbeth* are some of the few that stand out. As a sampler for my own viewing, I took a film from their "Action Adventure" series; grippingly titled *The Love Butcher*. I make a poor feature film reviewer obviously because after 15 minutes I gave up; we have been here before on television. It has all the soup-stains of a cheaply-made American crime TV movie.

With greater expectation, I turned to ripping off the shrink-plastic wrapping on Intervision's *The Great British Strip*. This is one of the videograms that really was made specifically for videocassette viewers. I hope I am not getting old, but it left me very cold: a succession of rather plump ladies doing a strip routine on a small, satin-draped stage. But I must commend the good camera work and excellent colour quality which was first-rate—and in this case a critical test because in in checking colour quality the engineers always look for flesh tones first.

Never mind, I do have a great love for gardening, so Michael Barrett's *New Life in the Garden* had a much healthier attraction. This is straight TV gardening programme stuff, with Michael Barrett looking on and asking questions as experts at the Royal Horticultural Society garden at Wisley demonstrate sowing, pricking out, and so on. The same kind of thing can be seen on television, and with hardly any difference. Nicely shot, good colour, a better-than-average use of close-ups (which are so frustratingly absent from many gardening programmes) and excellent low-key interviewing by Barrett—who only intrudes at the very moment when a question seems to loom in the viewer's mind.

So far I have to confess that my fifth channel viewing has, none the less left me waiting for the Nine O'clock News, Panorama or some other good old reliable.

EMI has done much better with its own "first-ever" videogram — *Christmas Carols from Cambridge*. Made at King's College, this has all the beauty and pictorial excellence one would hope for: a very professional job (but the sound track on my copy a little down in volume level). This programme was made specifically for the videogram market, but it still looks like a rather good broadcast television programme and indeed was transmitted by the BBC twice around Christmas last year.

Music is the speciality of another British videogram distributor, VCL, whose own first videocassette exclusive, *Tina Turner at the Apollo*, is again very familiar in its style; an echo, rather hollow, of Top of the Pops. I did not rate this anything like as good as the broadcasters do and found the overall technical quality less than impressive.

The worst technical quality of a generally good batch came in *The Lucky Jim Adventure Fishing Show*, another Intervision programme and again obviously an American TV re-release (complete with fades where originally the commercial breaks were inserted). Dull, slow and not very informative.

The best I leave till last, a sampling of IPC Video's range which is mostly hobby and leisure interest material. All of this is reissued material of either television programmes or documentary films but all well-chosen and first-rate viewing. *The British Open 1977* is compulsive for golfers even if they may have seen it all before; likewise *Ski*, and *Wimbledon 1977*. But for me, the great delight was a sponsored film that has been available on 16mm for some time, a masterpiece from the Royal Society for the Protection of Birds, *Big Bill—The Story of a Heron*. This is a sheer delight to watch, with extraordinary photography that follows the life-style of one British heron with all the atmospheric sound effects of the countryside and a nicely-muted commentary: it is one videocassette that I would buy to view again and again.

Nevertheless, this exercise has left me dismayed. If videogram publishers and distributors can offer no real alternative to the broadcasters, they might as well give up. During the last week on broadcast television, I was still able to pick up a few isolated gems (such as a brilliant BBC documentary about a Northern steeplejack). Only the heron videocassette could equal this.

Own style

To complete with broadcasting, the videogram must offer the singular, the genuine classic. It must also develop a style of its own rather than merely imitate what broadcasting does so much more professionally.

No doubt in time this will happen. Meanwhile, it is at least encouraging to report that the technical quality of all of the copies I viewed was generally of a very high standard; no ordinary viewer would ever know the difference alongside a broadcast transmission. Now that the videogram industry has got the form right, it must devote much more money and imagination to the content.

Riboule can win Belvoir Stakes

RACING

BY DOMINIC WIGAN

IF RIBOULE wins today's opening event at Yarmouth, the Beevor Stakes, she will have greatly increased her paddock value by this evening.

Riboule, a three-year-old owned by Mrs. Cyril Seymour-Newton, is a daughter of Ribero and a full sister to Ribac. She is also a half-sister to two extremely smart performers of recent seasons—Sheheen and Olympios. She was out of the running in two maiden events at Newmarket last season, but ran far better on her only outing to date this term.

At the one mile three furlong Bracknell Stakes at Windsor on September 3, the Bruce Hobbs-trained filly surprised bookmakers and punters alike by keeping the 8-1 on Ivatan (her only rival) at full stretch right to the line.

Matches often prove misleading, and Riboule did have an 11 lbs weight advantage. But a one-and-a-half length defeat at the hands of a colt which Fulke Johnson Houghton had allowed to race in the Prix du Jockey-Club was no mean effort.

Riboule is sure to be all the better for that run. She is equally certain to find today's additional three furlongs to her liking, and can beat Foolish Hero.

Another sound proposition on an afternoon when punters may fare better than their opponents is Hanu, among the runners for Lingfield's nine-runner Surrey Stakes. This Scobie Breasley-trained youngster is reported to have improved tremendously since coming in fourth behind Bruce Lee.

Although it has been common knowledge among professionals in the betting world for at least four days that Rio Carmelo is 99 per cent certain NOT to run in the Cambridgeshire, some bookmakers remain only too willing to retain the colt at the forefront of their Cambridgeshire lists.

It was particularly disappointing to see the sponsors of that event, the William Hill Organisation, yesterday quoting the Riverman colt a 12-1 joint favourite for their Newmarket race.

Rio Carmelo will, if all goes according to plan, run instead in Ascot's Cumberland Lodge Stakes.

LINGFIELD

2.00—Petchora
2.30—Norfolk Reed*
3.00—Welthi
3.30—Precious View
4.00—Truly Blessed
4.30—Body Blow
5.00—Hanu***

YARMOUTH

2.15—Riboule**
2.45—Wanderlust
3.15—Hot Match
3.45—Druimfada
4.15—Miss St. Cyr
4.45—Atlantic Connection

TV Radio

BBC 1

† Indicates programme in black and white.

6.40-7.55 am Open University (Ultra high frequency only). 9.35 *For Schools, Colleges.* 12.45 pm News. 1.00 Pebble Mill at One. 1.45 Ragtime. 2.00 You and Me. 2.14 For Schools, Colleges. 3.20 Pawb Ye Ei Fro. 3.53 Regional News for England (except London). 3.55 Play School (as BBC 2 11.00 am). †4.20 Champion the Wonder Horse. 4.45 Buford Files and Dinky Dog. 5.05 John Craven's Newsround. 5.15 Stopwatch.

5.40 News.
5.55 Nationwide (London and South East only).
6.20 Nationwide.
6.50 Rolf Harris (London and South East only).
7.20 It's a Knockout.
8.30 Last of the Summer Wine.
9.00 News.
9.25 Prince Regent.
10.20 The Bear Next Door.
10.50 Francis Albert Sinatra Does his Thing with guests Diahann Carroll, and the Fifth Dimension.
11.40 News Headlines/Regional News.

All regions as BBC 1 except at the following times:

Scotland—10.38-10.58 am and 11.38-11.58 For Schools. 5.55-6.20 pm *Reporting Scotland.* 6.50-7.20 Rolf Harris (as London and South East). 11.40 News and Weather for Scotland.

Wales — 10.30-10.58 am I Ysgolion. 4.45-5.05 pm Pier Maesteg. 5.55-6.20 Wales Today. 6.50 Heddiw. 7.10 Ken Yn Kenya with Ken Williams, retired policeman and naturalist. 7.40-8.30 Bonanza. 11.40 News and *Weather for Wales.*

Northern Ireland—10.38-10.58 am For Schools (Ulster in Focus). 3.53-3.55 pm Northern Ireland News. 5.55-6.20 Scene Around Six. 6.50-7.20 Hello Sunshine. 11.40 News and Weather for Northern Ireland.

England—5.55-6.20 pm Look East (Norwich); Look North (Leeds, Manchester, Newcastle); Midlands Today (Birmingham); Points West (Bristol); South Today (Southampton); Spotlight South West (Plymouth). 6.50-7.20 *East (Norwich) It's Your Image;* Midlands (Birmingham) Know Your Place; North (Leeds) What Am I Bid?; North East (Newcastle) North At War; North West (Manchester) North West At War; South (Southampton) All Change For . . .; South West (Plymouth) Brain Wave; West (Bristol) The Rectangular Picture Machine.

BBC 2

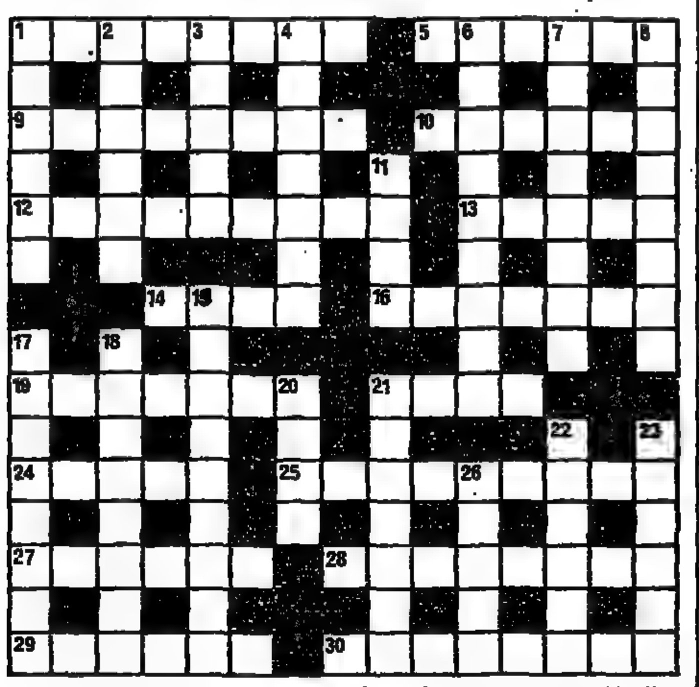
6.40-7.55 am Open University.
11.00 Play School.
4.50 pm Open University.
6.55 Mid-evening News.
†7.05 The Ealing Comedy: "Passport to Pimlico," starring Stanley Holloway, Hermione Baddeley and Margaret Rutherford.
8.30 Jack Dieval in London with Rhythm on 2.
9.00 Rhoda.
9.25 Man Alive: Allergies—What's Your Poison?
10.15 James Last Live in London with his Orchestra and Chorus.
10.45 Darts: The Unipart World Team Matchplay.
11.20 Late News.
11.35 The Old Grey Whistle Test.

Channel is the only IBA company transmitting programmes during the present industrial dispute. Details of this local service are given below.

CHANNEL

1.20-1.30 pm Channel Lunchtime News, What's On Where and Weather. 5.00 Puffin's Birthday Greetings. 5.05 Clue Club. 5.30 Lost Islands. 6.00 Report at Six Extra. 7.00 McMillan. 8.15 Feature Film—"A Bullet is Waiting." 9.45 Winners and Losers. 10.10 Channel Late News, Weather. 10.15 Style. 10.45 News in French.

F.T. CROSSWORD PUZZLE No. 4,076



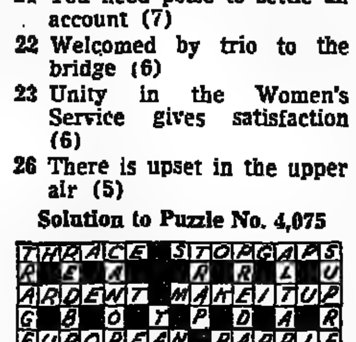
ACROSS

1 Crazy dress for nearly everyone in song (8)
5 A pick-me-up leaves us without stress (6)
9 If their sides go down, they may go too (8)
10 Carnival throws out a number who are sensual (6)
12 Uneasy abroad (3, 2, 4)
13 Churchman is not as young as he was (5)
14 Colonnade of philosophy (4)
16 A song indeed put off (7)
19 The tenant about one living on invested income (7)
21 Sounds an excluded poet (4)
24 Greek islander gets the Scot to church (5)
25 Fatter, like a completed application form (6, 3)
27 Mars yields its plunder (6)
28 Retreating like faulty nylon (2, 3, 3)
29 First public tenure means to give satisfaction (6)
30 Main Catholic he's trying to find (8)

DOWN

1 Importance of a sign in the meantime (6)
2 Indicate negative in the river (6)
3 Entered with unminted gold? (5)
4 Golden disc but not for pop-singers (7)
6 Shelley met one from an antique land (9)
7 A time for wonder (4, 4)
8 Depression or trouble in American state (8)
11 Have the inclination to spread round the North (4)
15 Musical instruments for neat girls (9)
17 Gives high praise and collapses (6, 2)
18 Sophocles and Anouilh wrote about her new arrangement on eating (8)
20 A bird to collar (4)
21 You need poise to settle an account (7)
22 Welcomed by trio to the bridge (6)
23 Unity in the Women's Service gives satisfaction (6)
26 There is upset in the upper air (5)

Solution to Puzzle No. 4,075



Radio Wavelengths

1 200kHz/1500m & 92-95vhf	3 1215kHz/247m & 90-92.5vhf stereo	BBC Radio London: 1458kHz, 206m & 94.9vhf
2 693kHz/433m 909kHz/330m & 88-91vhf stereo	4 1053kHz/285m 1089kHz/275m	Capital Radio: 1548kHz, 194m & 95.8vhf
		London Broadcasting: 1151kHz, 261m & 97.3vhf

RADIO 1

(S) Stereophonic broadcast
‡ Medium wave

5.00 am As Radio 2. 6.00 Dave Lee Travis. 9.00 Simon Bates. 11.31 Paul Burnett. 2.00 pm Andy Peebles. 4.31 Kid Jensen. 7.00 Personal Call. 8.00 *Mike Read.* 9.50 Newsbeat. 10.00 John Peel (S). 12.00-5.00 am As Radio 2.

RADIO 2

5.00 am News Summary. 5.03 Tony Brandon (S). 7.32 Terry Wogan (S). 10.03 Jimmy Young (S). 12.15 pm Waggoners' Walk. 12.30 Pete Murray's *Open House* (S). 2.15 *David Hamilton* (S). 4.15 Much More Music (S). 5.00 News. 5.05 Waggoners' Walk. 5.20 John Dunn (S). 6.45 Sports Desk. 7.02 Brian Fahey and the BBC Scottish *Radio Orchestra* (S). 7.30 *Folk 79* (S). 8.02 Nordring Rendezvous from Sweden (S). 9.02 Among Your Souvenirs (S). 9.55 Sports Desk. 10.02 The Frankie Howerd Variety Show. 11.02 Brian Matthew with Round Midnight, including 12.00 News. 2.02-5.00 am You and the Night and the Music (S).

RADIO 3

‡6.55 am Weather. 7.00 News. 7.05 Overture Concert, part 1 (S). 8.00 News. 8.05 Concert, part 2. 9.00 News. 9.05 This Week's Composers. Cavalli and Carissimi (S). 10.00 Grizedale Piano Festival 1979 Brahms recital, part 1 (S). 10.55 Interval Reading. 11.00 Recital, part 2. 12.00 *Schubert in English* (S). 12.15 pm Cardiff Midday Prom, part 1 (S). 1.00 News. 1.05 Six Continents. 1.20 Midday Prom part 2 (S). 2.10 Louis Kentner Plays Lyapunov. 2.50 Now and Then (S). 3.50 Cello Sonatas (S). 4.35 Elizabethan Singers (S). 4.55 Jazz Today (S). 5.25 Homeward Bound (S) including 5.45-5.50 News (‡ and mono only from 5.45). ‡5.15 At Home. 7.10 Pied Piper (S). 7.30 Outrageous Behaviour (story by Morris Lurie). 8.00 Celibidache and the LSO Concert, part 1: Schumann (S). 8.40 An outsider *in Government.* 9.00 Celibidache and LSO part 2: Ravel, Debussy, Wagner (S). 9.50 Medion and Messene. 10.10 Chopin piano recital (S). 10.35 Cavalli: Venetian Musician (S). 11.55-12.00 News.

VHF only—6.00-7.00 am and 5.45-7.10 pm Open University.

RADIO 4

6.00 am News Briefing. 6.10 Farming Today. 6.25 Shipping forecast. 6.30 Today, including 6.45 Prayer for the Day. 7.00, 8.00 Today's News. 7.30, 8.30 News Headlines. 7.45 Thought for the Day. 8.45 Diary of a Somebody. 9.00 News. 9.05 Tuesday Call. 10.00 News. 10.05 Local Time. 10.30 Daily Service. 10.45 Morning Story. 11.00 Thirty-minute Theatre. 11.30 Crowdie and Cream. 11.45 Listen with Mother. 12.00 News. 12.02 pm You and Yours. 12.20 Desert Island Discs. 12.55 Weather; programme news. 1.00 The World at One. 1.40 The Archers. 1.55 Shipping forecast. 2.00 News. 2.02 Woman's Hour. 3.00 News. 3.05 A Small Country Living. 3.35 The Bostonians. 4.30 Announcements. 4.35 Story Time. 5.00 PM News magazine. 5.50 Shipping forecast. 5.55 Weather; *programme news.* 6.00 News. 6.30 Many a Slip (s). 7.00 News. 7.05 The Archers. 7.20 Forty Years On. 8.05 Something Appealing, Something Appalling. 8.45 Science Now. 9.30 Kaleidoscope. 9.59 Weather. 10.00 The World Tonight. 10.30 Joyce Grenfell Requests the Pleasure (s). 11.00 A Book at Bedtime. 11.15 The Financial World Tonight. 11.30 Come to the Cabaret. 12.00 News.

BBC Radio London

5.00 am As Radio 2. 6.30 Rush Hour including 9.15 Holiday Scene. 10.03 The Robbie Vincent Telephone Programme. 1.03 pm London Live. 3.03 Paul Owens' Showcase. 4.30 London News Desk. 5.35 Look, Stop, Listen. *7.03 Black Londoners.* 8.00-5.00 am As Radio 2.

London Broadcasting

6.00 am AM with Bob Holness and *Doug Cameron.* 10.00 The Brian Hayes Show. 1.00 pm LBC Reports. 3.00 George Gale's 3 o'clock Call. 4.00 LBC Reports. 8.00 After Eight. 9.00 Nightline. 12.00 LBC Reports Midnight. 1.00 am Night Extra. 4.00 The London Fire. 5.00 Morning Music.

Capital Radio

6.00 am Graham Dene's Breakfast Show (S). 9.00 Michael Aspel (S). 12.00 Dave Cash (S). 3.00 pm Roger Scott (S). 7.00 London Today (S). 7.30 Open Line with Ric Davis (S). 9.00 Nicky Horne's Your Mother Wouldn't Like It (S). 11.00 Tony Myatt's Late Show (S). 2.00 am Duncan Johnson's Night Flight (S).

THE ARTS

Foiano della Chiana, Italy

A Tuscan album

by WILLIAM WEAVER

The big photography show—or complex of shows — which recently ended in Venice was an eloquent demonstration of the immense Italian interest in the photographer's art. Italy is reputed to have more photography magazines than any other country in Europe (some of the publications are less than serious, envincing interest chiefly in nudity à la David Hamilton); Italian publishers are beginning to bring out serious monographs on leading photographers of the past and the present; museums are buying prints for their collections, and private galleries are regularly offering shows of new work.

This interest also exists at a grass-roots level. A small-scale but fascinating show, held a short time ago in the Tuscan town of Foiano della Chiana, is typical and illuminating. Foiano is a good-sized market town (population about 10,000), overlooking the Chiana Valley, famous for its *chianina* beef (if you have ever enjoyed a *bistecca fiorentina* in Tuscany, the steak was probably grown in this area). Foiano also has an active Foto Club — most Italian towns and cities have them now — and it was this group that organised an exhibit of the photographs of Furio Del Furia, a local amateur, who died in 1932.

Del Furia was the village pharmacist. The photographs of him seem to show a conventional pillar of the Italian middle-class: hair slicked down and neatly parted, rimless spectacles, trimmed moustache, sober clothes. But he obviously had an inquiring, unconventional mind — and an alert, tasteful eye. From about 1912 until the time of his death, he took thousands of pictures, keeping also a careful log of his work in a series of notebooks. Lost at some point after his death, his plates — over 5,000 of them — were rediscovered a few years ago and bought,* with the notebooks, by the municipal administration of Foiana.

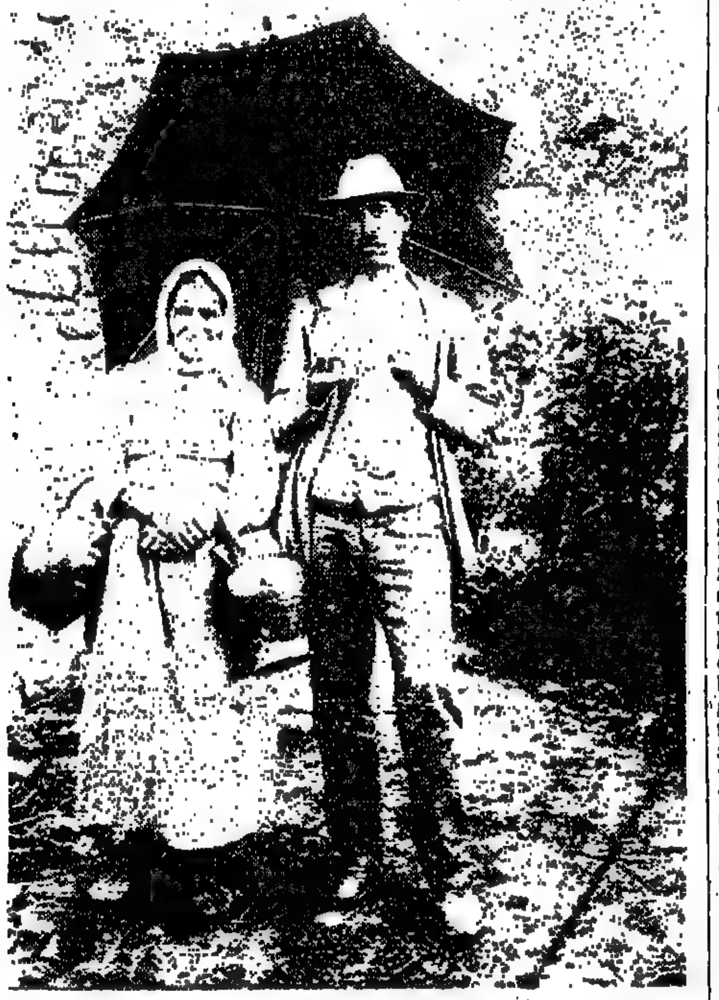
It was a wise purchase. Wittingly or not, Del Furia documented a whole era in Italian life.

But, more important, Del Furia recorded the world of the village and of the farms around it. Entertainments at Foiano half a century ago included a dancing bear in the Corso, a *ciarlatano* telling fortunes in Piazza del Re. The peasants washed the sheep, before shearing, in the Chiana canal; they flailed the grain with primitive wooden implements, ploughed with wooden ploughs. Then the first farm machines arrived, and they are photographed as protagonists, with a few peasants staring at them, in awe, or perhaps in dismay.

The First World War touched Foiana. Some of the farm machines were run by soldiers, while the local men were off fighting the Austrians. A plane crashed in the valley, and Del Furia went out to photograph the wreckage. A few days later, he photographed the pilot's funeral. After the war, politics. Del Furia took pictures of orators, from various parties, in the main square, and an immense May Day rally in 1920, with a banner saying VIVA RUSSIA VIVA LENIN.

In an eerie picture, taken from an upper window of his house, Del Furia documented the Fascists' arrival: two open lorries are parked in the square, crammed with *squadristi*, and soldiers are with them. This in 1921, before the March on Rome and the establishment of the Regime. Though the Government at the time denied any connivance between the Fascists and the armed forces, there it is, in the photograph. A few days later, in the Foiano square, the Fascists were brutally shooting the local resisters.

Seeing these photographs—the show included about 300 of them—simply displayed in the classroom of the Foiano Elementary School is a moving experience. You look at the past, but without much nostalgia. Del Furia's peasants are not pastoral: their work is hard, constant, unrewarding. The political speakers inevitably remind the viewer that, a short time later, came a period when speech was muzzled in Foiano, as in all Italy. Del Furia's photographs (many of them strikingly beautiful just as compositions) often have the charm of a family album, but they also have the sharp edge of reality.


'Pipi and Angiola with umbrella in their farmyard, 20 June, 1918'


'Group Portrait' by Gillian Barlow

Arnolfini, Bristol

Narratives and Illustrations

by WILLIAM PACKER

Any exhibition of contemporary art so bold as to proclaim itself "narrative" is bound to excite in us a certain interest, not to say positive anticipation, for it is not so very long since to sally out under such a banner would have been a risky business, likely to call down upon anyone *remotely to do with it all sorts* of smart critical fire. "Illustrative" and "literary" were killing epithets only yesterday, or so it seems, and we had to be pretty quick on our feet to get away with a taste even of the decadent Victorians, let alone the current Academy. So when a young critic now seeks to persuade us that it is really all right and the coast clear at last, naturally we go along to see what he means.

But it turns out that he is none too sure himself. Timothy Hyman has added a rider to his selection of recent painting at the Arnolfini (until October 20) —"The Figurative Art of two generations"—which hedges his bet rather. Narrative Painting, Figurative Painting: they are not quite the same thing. And in the excitement of his personal discovery that some serious artists have been painting pictures with people in them these past 20 years and more, and do so still, he forgets to make clear the distinction.

Or rather he neatly ducks the issue with the truism that a definition is difficult to establish, and going on to claim the entire western figurative tradition, from the earliest frescoes to the great "machines" of the nineteenth century, as precedent. He does not really want to be stuck with the Victorian simplification that every picture tells a story, and yet, he says, "The images I've loved best in every period of Western Art present a figure . . . caught up in some kind of story." So all we can do is wander round what is, the several thousand words of introduction notwithstanding, a most unconvincing polemical enterprise, and make what we can of it.

Our frustration does not stop here, however, for Hyman insists upon making his premise even shakier. His introduction begins with these words: "The kind of painting I'm most interested in hasn't been widely seen or emphasised over the past 20 years," to which the only possible response, having recaptured enough breath, is a firm raspberry. What can he mean? He includes his own work in the show, and so we learn from the catalogue that he was at the Slade in 1963, and has continued active in the art world ever since; but, really, *what can he have* been doing, where can he have been hiding, that he can now make so misconceived a statement? Who are the heroes of the show? Why, David Hockney, R. B. Kitaj, Eduardo Paolozzi and Michael Andrews. Does Hyman mean to tell us that they, and painters like Francis Bacon, Howard Hodgkin, Allen Jones, Anthony Green, Leon Kossoff, and all the rest, some in his show, some not, owe what little success they have to his own latterday enlightenment and patronage? I think not.

His selection embraces 21 artists who fall into three groups: some who achieved *major reputations* in the sixties; some of the same vintage who are now established professionally but deserve wider recognition; and finally a number of younger painters, all fairly well represented and the largest portion of the show. Groups one and two offer us the most interesting work in general and a handful of major individual items, most notably the two paintings by Kitaj, one early, one comparatively recent, and "The Colony Room" by Michael Andrews, again a work dating from early in the period. Andrews works excessively slowly, shows only rarely, and his paintings have the nasty habit of disappearing for ever into private collections: but his reputation has stood very high all this time. He can hardly be thought a find; and to see him here is no re-examination, merely a treat. The same is true of the others: Hyman thought to re-assess them, but a work apiece is no basis for such an exercise.

The middle group is crowded out too, marginally more generously hung, but only to the extent of one large work and a few drawings or tiny paintings. Maggi Hambling, Anthony Green and Jeffery Camp all show strong things, but shoulder to shoulder on the same wall they hardly help each other along. It is paradoxically the generally smaller works of Ken Kiff and Peter de Francia, the one with paintings, the other with drawings, that shown en bloc are able to establish any useful presence. Yet this group of artists alone, all of them in mid-career, and producing work of considerable interest and accomplishment, given the run of the entire gallery, might well have made Hyman's narrative point for him: Maggi Hambling with her biographical portraiture, Camp and Green with their autobiographical adventures, Kiff with symbolic incident and de Francia with literary preoccupation.

The final section, which takes the lion's share of the space, is the most disappointing. Setting out to show us what is "happening among younger painters," it uses young in the loosest possible sense, suggesting merely that the artists have risen only recently to our attention, if at all. Only Wynn Jones, with his ominously flapping, strangely distorted figures, distinguishes himself in any serious way, though Gillian Barlow's frankly illustrational work is acceptable enough, and there are a couple of good things from Andrzej Jackowski, sinister Beckmann-like interiors. For the rest, Paul Butler follows Ben Shahn as Alexander Moffat follows Kitaj, flattering to deceive, making distortion and mannerism supply their want of personal conviction; but at least their work is technically adequate. So much of the rest is as over-large as the artists themselves are over-stretched, ill-composed, weakly drawn and ineptly painted. The narrative element in the work would again seem to reside solely in the fact that each work contains a number of figures, all of them more or less formally related to one other, but ambiguously enough to make us supply our own little history. Something goes on but we are not sure what.

Which brings us back to the question of Narrative Painting. A narrower selection, even from among what we see here, might well have made a particular point. Kitaj and Hockney, Camp and Green, Jones and Jackowski could at least together sustain the argument; but Mr. Hyman's nerve fails him and the chance is lost. He shows us instead a selection of recent figurative painting, no more, no less, some of it decidely poor, some of it very good indeed, and more than worth the trip to see: very much a case of the single spy rather than the battalion. "Narrative Painting" comes next to the ICA in London.

Wigmore Hall

Fauré series

by RONALD CRICHTON

The Wigmore Hall's Fauré series, stretching from now until March, the programmes not exclusively but always partly devoted to the chamber music and songs, draws good audiences. There was a big house on Sunday for Paul Crossley's piano recital —Mr. Crossley has a following but up till quite recently I doubt if in this hall he would have risked as much as half a programme of Fauré. The splendid piano music is one of the bulwarks of Fauré's output, yet his obstinately faithful and enchanted British public has been slow to explore it.

Mr. Crossley, one of the most gifted and interesting of the younger British pianists, left no one in the dark about his profound feeling for this music. He has the measure of the size—many of these pieces masquerading behind conventional titles ("Nocturne," "Barcarolle" and so forth—Fauré, who was uninterested in the descriptive aspect, adopted them in deference to custom and publishers) and large structures of some complexity. He has a beguiling sonority that except for one or two moments in the Valse Caprice No. 4 (a more adventurous page than the designation implies) remains round and sweet, lending noble depth to the organ-like basses to which Fauré anchors his harmonic adventures.

There were, however, some oddities. There is room for argument about the interpretation of Fauré, usually centering round the question of rhythm—strict or not? Even those who don't believe the feeling is all there already must surely favour greater strictness than Mr. Crossley allowed himself. At least there must be greater strictness at the beginning of a piece — in the First and Fifth Barcarolles the failure to establish a pulse soon enough possibly made the ultra-expressive treatment of the melodies later seem more extreme than it was. One doesn't want the mechanical strictness of pianists who type rather than play, but, as Mr. Crossley himself showed in the Third Nocturne, there is a *middle way*.

There were fine things in the Seventh and Thirteenth Nocturnes, masterpieces *of Fauré's* middle and late periods, also in the Seventh some rather debilitating hesitations—nothing to do with technique or memory but a kind of emotional self-indulgence threatening mannerism. This was not confined to the French master. In the four Chopin Ballades, of which the pianist gave an often impressive and highly-charged account, he dandled the line in No. 1 and moulded the innocent lullaby strain in No. 2 into something strange. The pianistic talent and the gift of musical communication in this artist are so valuable that these signs of abberation need controlling.

*

Ian Partridge, with Jennifer Partridge, an attentive partner at the piano, sang Schubert's *Die schöne Müllerin* on Saturday evening, preceded by a modest group of mostly early songs by Fauré, linking the recital with the Wigmore Hall's Fauré series. The Schubert cycle was sensitive, intelligent, with some delicately held phrases (in "Die liebe Farbe" for example) also moments of passing strain when the tenor's tone was less limpid than usual — to put things crudely, the higher notes sometimes tightened and went into the nose. How mysterious is the relationship between a given voice and a given hall—one has heard this singer project far more keenly in larger spaces.

A limited supply of physical energy where it was needed, for instance in "Morgengruss," and an indoor feeling suggesting that this jilted lover was more likely to blow his brains out at home like Werther than to drown himself in a brook, reinforced an impression made by the Fauré group that Mr. Partridge may have been slightly indisposed. "Lydia" (whose demanding simplicity usually puts both singers and accompanists on their mettle) and "Sylvie" went well. Other things were under-vitalised with good French accent but weak diction—some consonants were lost altogether. This mattered even more than usual because the French part of the agent's scruffy word sheet was abominably misprinted.

Festival Hall

Skryabin's First Symphony

On Sunday, in their opening concert of the season, Riccardo Muti and the Philharmonia gave a rare performance of Skryabin's First Symphony. Written when he was 28, it is hardly a juvenile work—he had already behind him the skilful Piano Concerto and a quantity of solo piano music no less sophisticated than original—but we never hear it. It was by far his most ambitiously extended piece before 1900, delicately orchestrated as well as richly, and full of sharply personal turns; and as a whole, it doesn't work at all.

There are plenty of incidental rewards, and all praise is due to Muti and his orchestra for their refined and glowing account of the score. What remains most attractive in the Symphony is just what is hardest to bring out: its feline, tenderly ambiguous melodies, which presuppose a soloist's sensibility (like Skryabin's own), and if blunted leave the awkward broad lines of the work rudely exposed. Muti was marvellously sucessful at finding the right intimately expressive note, even where whole string sections are expected to phrase like a solo artist in a private recital. There were flawlessly sympathetic contributions from the first flute and clarinet, Patricia Lynden and John McCaw, who revelled in all the music that recalls Skryabin's hyper-sensitive Preludes.

Where something more like violent passion enters the score, the weight must be still harder to judge—there is a suggestion of cat's-paw about it even where the composer's *intentions* are epic. Here, too, Muti showed a deft hand with holding disparate material together, and still achieving a luminous shimmer. Only the Borodinesque Scherzo sounded as if it wanted one more play-through yet. In the chorale Finale (an utterly gratuitous movement), Irina Arkhipova and Robert Tear led off with brave conviction, and the Philharmonic Chorus made a magnificent noise: if anything could have made that conclusion seem to have a symphonic sense, they would have done it. Skryabin, rapturously embedded in the Chopin tradition, had no conception of Austro-German symphonic form, and he had not yet developed the crystal-structure alternative that would enable him to fill out big works later. But this revival was eminently worth having; and one looks forward to Muti performances of the stranger, grander Skryabin with the highest expectation.

DAVID MURRAY

Philharmonia plans

Mr. Christopher Bishop, newly appointed general manager of the Philharmonia Orchestra, says he has accepted the Philharmonia post at the suggestion of Riccardo Muti, the orchestra's principal conductor, who has signed a new contract and accepted the additional post of music director.

In the new season, the Philharmonia will give 115 concerts. There are 140 recording sessions booked, and three television programmes.

Last year the orchestra's budget showed a surplus of £20,000.

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Sweden in a maze

A COMMON phrase in the Swedish general election campaign was "Sweden at the crossroads." The results have confirmed it with a vengeance. Sweden is certainly at a political crossroads, and doesn't know where to turn. So close was the voting indeed that we shall not know for a day or two who has actually won.

Referendum

On the face of it, there seems to have been some polarisation among the electorate. The Communists, on whom the Social Democrats would rely for a majority if they were in a position to form a government, achieved their best result for 30 years by gaining three seats. At the other end of the political spectrum the winners were the Moderates (Conservatives) who, by Swedish standards, are regarded as extreme and who now become the largest of the non-Socialist parties in Parliament.

Depending on the distribution of the postal votes, there will be either a Social Democrat Government supported by the Communists or a non-Socialist coalition of Moderates, Centrists and Liberals. Either would be lucky to have a majority of more than one, and neither would find it easy to govern. The Communists would presumably demand a price for their support, and all the more so because of their relative electoral success, while the non-Socialist parties have shown strong tendencies to quarrel among themselves.

Moreover, even if the result had been more decisive, there would still have been little let-up in the political campaigning. One of the key issues in Sweden in recent years has been nuclear power. It was removed from the election campaign by an all-party agreement to hold a referendum on the subject next March. The Centre Party did well by stressing its opposition to nuclear power in the election three years ago, but was the real loser this time when the issue was in temporary abeyance. All other parties are to some extent divided on the matter.

It looks therefore as if there will be no stability in Swedish politics until the future of nuclear power is decided one way or the other.

Economy

It would be rash to conclude from all that, however, that the prophets of doom are necessarily right and that Sweden is in for a period of crisis, if not decline. The economy has recovered remarkably well in the past two years after the negative growth in the mid-1970s. Real GDP should expand by at least four per cent this year and there has been a striking increase in the volume of exports. Company profits have also been rising, admittedly from a low base. Not least, the trade union movement has refrained from using its undoubted power to press unrealistic wage settlements, though the real test here could come in the next few months. The economic performance suggests that the Swedish model still has a certain resilience.

Even the politics can be read in a less discouraging way than the obvious. The Social Democrats have behaved sensibly since their election defeat last time. They have trimmed their policies slightly, concentrated more on presentation and held their ground. A large part of the electorate clearly still prefers social democracy in its Swedish form of egalitarianism plus growth. It would be even larger if the Liberals were included, as they can fairly be, as social democrats of a mild variety.

Three year rule

The paradox is that the Liberals, as the smallest non-socialist party in Parliament, are in many ways also the strongest. The other non-socialists could not govern without them, yet the Liberals could support the Social Democrats. It remains to be seen whether this kind of coalition bargaining will take place, but the election results suggest that what the bulk of the Swedish people want is a mild form of social democracy.

There is one final point. Sweden is doing itself no good by going to the polls every three years. That is one rule which ought to be changed whoever forms the new government.

The looming energy gap

THE GLOOMY tone of the International Monetary Fund's annual report on the subject of oil price increases serves to underline Britain's apparent good fortune in being a significant oil producer in its own right. The country's monthly deficit on oil trade dropped to £70m during the January-July period compared with £163m during the corresponding seven months of last year. That deficit will evaporate altogether as the UK moves into its enviable state of energy self-sufficiency sometime during the next year.

Conservation

The main concern now is whether Britain can take advantage of its privileged position to strengthen its industrial base, to push ahead with alternative energy schemes and to implement conservation measures of lasting benefit. There is not a great deal of time in which to take the necessary action. The latest figures issued by the Department of Energy indicate that the country's return to a position of net energy importer may come more rapidly than previously envisaged.

In its submission to the Vale of Belvoir coal mines public inquiry the Department warns that by the 1990s domestic oil production will be in decline. Natural gas production might begin to slip a few years later. At the same time the alternatives, like coal and nuclear power, are not being developed fast enough.

Revision

The urgency of the National Coal Board's "Plan for Coal" development programme is underlined by the fact that without early and continuing investment in new production, colliery output in 1990 would be lower than it is today, perhaps falling to around 80m tonnes annually before the end of the century (compared with around 120m tonnes at present). Given the necessary development boost the Coal Board is hopeful of attaining an output of around 170m tonnes per annum by the turn of the century.

But the development of coal fields, like that of nuclear plants, involves long lead times —in some cases as much as a decade of planning and construction. To make matters worse Britain's oil resources may not last as long as once thought. The latest published Government estimates of Britain's offshore resources show that the total amount of oil that might be ultimately recovered could be between 2.4bn and 4.4bn tonnes. Last year the range was set at 3bn to 4.5bn tonnes and it is quite possible there will be another downward revision before next summer.

All this leads the Department to the conclusion that there could be a sizeable gap between energy supply and demand opening up within the next two decades, a gap as wide as 105m tonnes of coal equivalent by the year 2000. Assuming, for simplicity sake, that the gap was to be filled with coal at to-day's prices the burden on the country's import bill would be well over £2.5bn. In reality the cost would be far higher for much of the gap would have to be filled with imported crude oil and all the signs are that OPEC will make sure that the cost of this fuel will rise in real terms over the coming years.

Lower demand

Conservation will help, of course, but the Energy Department has already taken account of this in its latest forecast. It estimates that by the year 2000 UK energy demand could be in the range of 445m to 515m tonnes of coal equivalent. This is some 5m to 45m tonnes less than the forecast contained in last year's "Green Book" on UK energy policy.

However, while the Government sees a lower level of demand than hitherto—a reflection in part of more modest economic growth—it foresees an even bigger drop in the amount of indigenous production. Last year the Energy Department could see the UK producing between 475m and 515m tonnes of coal equivalent by the end of the century. The Vale of Belvoir Inquiry will be told that it now sees domestic supplies being in the range of only 385m to 410m tonnes of coal equivalent.

The warning implicit in these figures must be taken seriously by everyone concerned; the Government, consumers, producers and environmentalists. The Government has largely dealt with the more immediate task of boosting North Sea oil exploration. Now it must inject more urgency into the longer-term task of developing alternative energy sources and encouraging an even greater conservation effort.

STRUCTURAL FLAWS BY JOHN MOORE

Lloyd's troubles likely to lead to reforms

WIDESPREAD PUBLIC concern about the troubles that have hit Lloyd's of London is likely to lead to some of the most extensive reforms that this insurance market has ever seen.

Flaws in Lloyd's structure have been revealed by the celebrated Sasse affair, the "Savonita" claims row, the possibility of the market's largest-ever losses from computer leasing insurances, the halting of dealings on five underwriting syndicates under the management of Ashby and Co., and controversies surrounding many of some of the largest approved Lloyd's insurance brokers.

When Mr. Ian Findlay, the 61-year-old chairman of Lloyd's of London, completes a two-year term of office in December he will have presided over an insurance market which is passing through a turbulent period in its history.

Many of the troubles that have come to the surface during the 21 months or so that Mr. Findlay has chaired Lloyd's were developing sometime before that period. These problems have been varied but what they have revealed are breaches of Lloyd's accepted procedures which might suggest that the market is in some disorder.

Lloyd's claims that the incidence of the troubles or the amounts of money at issue are not significant in a market which handles over £2bn of insurance premiums in a single year. But what is of real concern is that the troubles in Lloyd's have exposed weaknesses in what have always been accepted as the market's strength.

The principal strength of Lloyd's, which Lloyd's maintains has been responsible for its predominant position in international insurance, has been its untrammelled entrepreneurial environment. This environment has been allowed to flourish with the minimum of outside regulation from government departments or internal intervention by Lloyd's own ruling and administrative bodies.

Lloyd's has argued persuasively that it is able to regulate its own market, although it is this ability which has been challenged by the recent run of problems.

Taking account of a growing political and public concern about the effectiveness of its self-regulatory procedures, Lloyd's 16-strong ruling committee decided a year ago to look into the whole question of its internal powers.

For much of this year a seven-man working party headed by Sir Henry Fisher has been taking evidence from many members of the Lloyd's community and reviewing the constitution of Lloyd's as established under Lloyd's Act of Parliament and bye-laws, and which gives the Lloyd's committee powers to supervise those who carry on insurance business at Lloyd's; the powers of the Lloyd's committee; and any other matters which the inquiry team consider relevant.

As each new controversy exposes fresh weaknesses in Lloyd's so the nature of the inquiry's brief has become more complex.

Recent developments in the Sasse affair whereby Lloyd's is enforcing the principle of unlimited liability through the courts—requiring 30 members to declare that their assets are sufficient to meet their liabilities—raises a number of issues about how this problem can be handled effectively in the future.

Moreover, Lloyd's earlier handling of the Sasse affair—when the Lloyd's committee provided numerous forms of aid to the syndicate which is facing £20.2m of losses—attracted criticism that the principle of unlimited liability may have been compromised. The Fisher team is likely to study carefully the issues that the Sasse controversy has raised.

On the surface there seems little wrong with Lloyd's. From its modest beginning in a coffee house in 17th century London, Lloyd's has developed into a major international insurance and reinsurance centre.

Currency earner

It is the City of London's largest single earner of overseas currency from invisible exports. Latest figures for 1978 show that Lloyd's overseas business underwritten in the UK contributed £362m, over a third of the total net earnings of UK insurance institutions, and over 15 per cent of the total net overseas earnings of the City.

If the contribution of approved Lloyd's insurance brokers is included, the role of the Lloyd's community as an overseas earner in the City looks even more impressive.

Lloyd's stresses that it is a national asset and has become so because of the unique way in which it operates: its flexibility in being able to take on many kinds of insurance which could not be arranged elsewhere, coupled with an entrepreneurial spirit which has been left free from government intervention, has helped Lloyd's achieve a steady rate of growth.

Lloyd's reputation has been further enhanced by the market's financial security which backs all Lloyd's policies. The 17,279 members who have joined Lloyd's all accept the principle of unlimited liability, which, together with a battery of other Lloyd's funds and members' deposits, ensures that all valid claims are settled.

In the past ten years the Lloyd's market has undergone a period of rapid expansion. In 1969 there was a membership of around 6,000. Now there are over 17,000 individuals who are supporting Lloyd's with committed capital. Because of the expansion of the membership, Lloyd's has been able to take on an increasing volume of business. During the same period premiums handled have climbed from £700m to £2bn.

The latter part of this expansion has been achieved at a time when there is already excess capacity in the market: too many insurers are chasing business which has not grown at anything like the same rate as the available capacity.

Market pressures have led to corners in usual market procedures being cut by both many of the Lloyd's insurance brokers — who produce insurance business for Lloyd's underwriters—and often the underwriters themselves. Because many underwriters have found themselves in a negotiating position of weakness, they have found the commercial pressures too compelling to investigate or inquire about the quality of the insurance business they have been receiving or check that proper market procedures have been followed.

The underwriters would argue that this should not be part of their work. Traditionally, the underwriter's function is reduced to the area of acceptance of risks and payment of claims.

The brokers undertake all the administrative function: of obtaining the business, presenting it to underwriters, obtaining all the facts and figures, preparing the policy documentation, administering the insurance throughout its period of cover, renewing it, helping with claim settlements, and the accounting. There should be very little duplication of work between the broker and underwriter.

To make the market an effective and efficient operation requires a spirit of utmost good faith, which means that a full disclosure of information must take place between both the broker and the underwriter.

By far the largest market in Lloyd's is the non-marine market. It has been developed over the last hundred years and accounts for nearly half of Lloyd's total insurance business. The non-marine market insures every conceivable kind of risk from professional indemnity and products liability to the legs of actresses or footballers. It can cover routine insurances such as damage to property or complex problems such as political risk.

The growth of this market owes much in recent years to the use of a variety of delegated mechanisms. These have allowed underwriters to build up significant portfolios of overseas business quickly and at low cost.

Of these the "binding authority" has attracted much attention and criticism. A binding authority allows a nominated third party to grant insurance cover on the underwriter's behalf. Through the use of such an arrangement an underwriter effectively delegates his pen to an insurance specialist, often based abroad. The holder of the binding authority can underwrite business for a syndicate up to certain specified limits.

Binding authorities are generally negotiated by established brokers who take a percentage from the arising business.

Ideally, binding authorities should go to those insurance specialists who have underwriting expertise but often they have fallen into the hands of those who are more adept at broking than underwriting.

The use of binding authorities has fallen into disrepute because there has often been a confusion of function by the holder of the authority. A duality of interest can be built up whereby the binding authority holder is effectively a broker rather than an established underwriter. Often the business operations of the person holding the binding authority are so small that he cannot provide an adequate underwriting service. Moreover, some binding authority holders lack the necessary professional skills.

Lloyd's non-marine market association offers a procedure whereby all binding authority holders can be vetted as to their suitability.

An insurance specialist based in the U.S. gained a binding authority from the Sasse syndicate after negotiation by the syndicate's brokers. This authority holder never gained approval under Lloyd's recognised procedures, although he produced fire and damage to property insurance business for the Sasse syndicate which was to lead to a large proportion of the losses.

By the time that Lloyd's gained any idea of what was going on the authority holder had already underwritten a volume of business on behalf of the syndicate, much more business than the syndicate in fact expected. Nearly a third of the eventual loss making insurances were underwritten during the period of a month.

In these circumstances Lloyd's powers are limited. For if insurances have been issued in Lloyd's name then Lloyd's argues that it is bound to honour all the policies and pay up on valid claims.

Reporting weakness

Essentially, all the problems at Lloyd's come down to a weakness in reporting procedures among members of the market. The Sasse syndicate breached its premium limits, which are carefully related to the amount of capital that backs the syndicate, accepting during one underwriting year £10m of premium against a limit of £4m. And one of the Ashby syndicates experienced problems with its premium limits as a result of its involvement with binding authority business.

But if there are weaknesses in the reporting procedures of the members of the Lloyd's community then there is also weakness in the powers of Lloyd's to enable it to take action and protect the good name of its market.

Computer leasing insurance business, which is likely to produce the largest losses in Lloyd's history, was largely due to a major error of underwriting judgment on a new class of business.

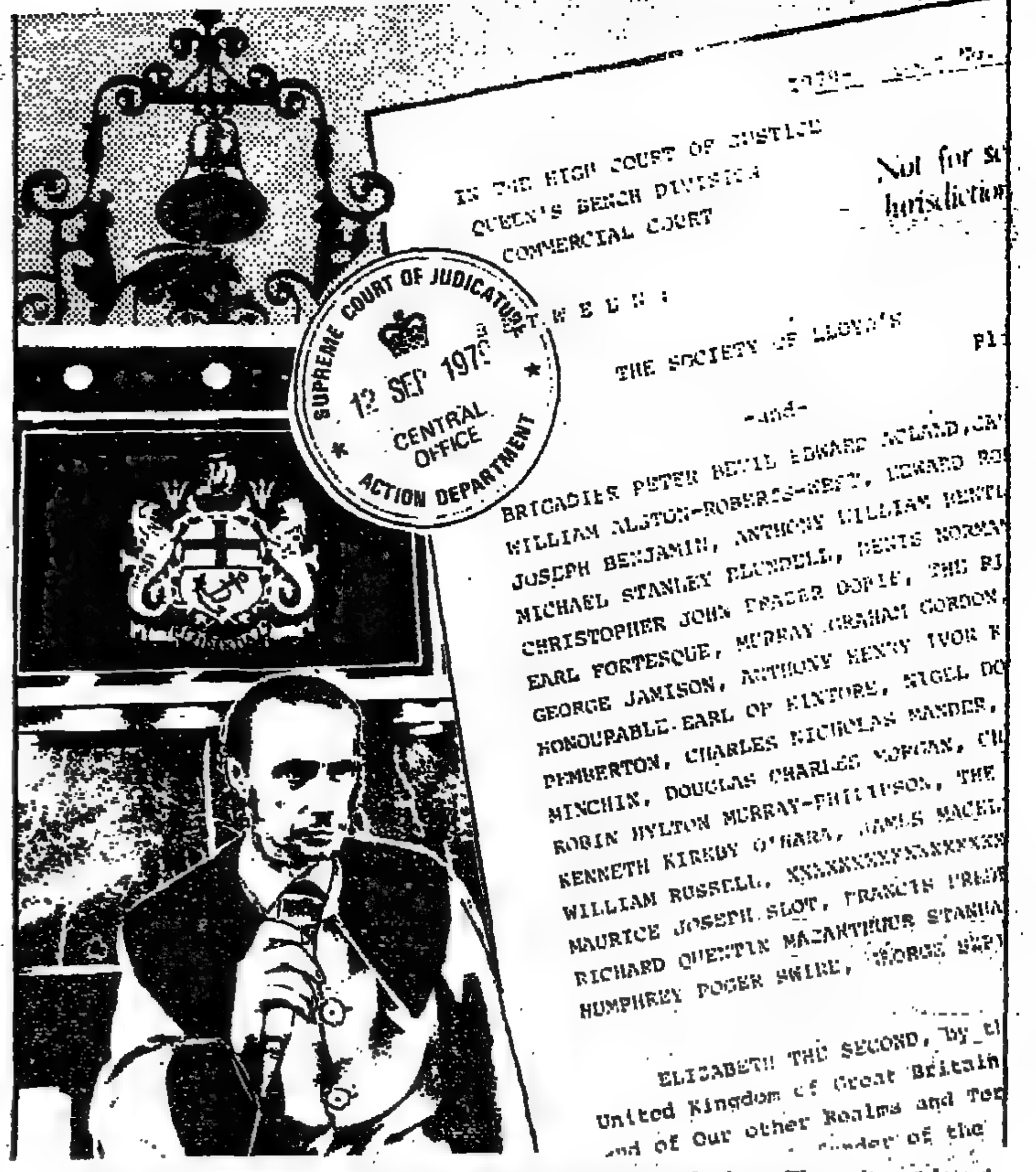
And yet the question must be asked whether Lloyd's own internal checks on the leasing business—which was eventually to represent $1bn of insured values in the market — were adequate.

Lloyd's does not insure the shortage of receipts, sales or profits of any venture, or the financial failure of any venture which protects the insured against financial default or insolvency under its financial guarantee rules. But of the early termination of computer leases for computer leasing companies have been regarded as acceptable because they insure a recognised contingency, namely the early termination of the lease.

Mr. Findlay recently told the Wilson Committee reviewing the functioning of financial institutions that there "are many ways of arranging contingency risks and I would not swear that some of them do not impinge into" the area of financial guarantee insurance. The question of whether computer leasing insurances broke the spirit, if not the letter of the financial guarantee ruling, does not seem to have been considered.

But when troubles occur Lloyd's has little formal organisation to cope with. Its Acts of 1871 and 1911 are out of date and largely irrelevant to dealing with contemporary disciplinary matters within the market.

Lloyd's itself has recognised that appeals to the membership to adopt a responsible attitude within the market are not enough. This is why we are likely to see an extensive programme of reform in its self-regulatory procedures in the months to come.



The "caller" sits beneath the Lutine Bell relaying messages to brokers. The writ was issued by Lloyd's against 30 members of the Sasse syndicate requiring them to produce a certificate of underwriting account by September 30

MEN AND MATTERS

The elm's return—from the Orient

The more arboreally conscious walking along Queen Victoria Street in the City may have noticed a particular sapling bearing up to the carbon monoxide. It is an elm of an unusual kind, *ulmus parvifolia*, which was flown especially from Japan along with 11 others, forerunners of an ambitious scheme to start reintroducing disease-resistant elms to Britain. A major Japanese trading company plans to import 10,000 of them next autumn to celebrate the centenary of its London operation.

"We wanted to make a permanent contribution to the host country rather than have the usual cocktail party junket," says Wynne Pearce, an executive of the company. Even though the scheme has been cloaked in secrecy, the demand for a share of the trees by local authorities and other public institutions has been extraordinary. "We could happily accommodate at least three times as many trees. If we had advertised, it would be unlimited. Because of the cuts, there are council workforces sitting around with nothing to do."

The bulk of the elms will come by ship from Canada, where a great deal of research has been done into Dutch elm disease, and it is believed that Asiatic elms are immune. The remaining 3,000 will be flown from Japan, where the disease is unknown.

The scheme, curiously, met with some resistance from dyed-in-the-wood traditionalists who feel that any nonEnglish elm should be *arbor non grata* (or should it be *non gratus*?) but in general the response has been very enthusiastic, even though it has not yet been proved that the Asiatic elm will keep its immunity in a British habitat. "The proof of the pudding is in the eating," says the Forestry Commission cautiously. However there are, it seems, Asiatic elm in Islington which have so far survived the disease.

Pearce, who has been organising the £100,000 scheme with a Japanese colleague, is particularly delighted by a letter from the district council in Gillingham, Kent. It seems there is a memorial there to a 16th century sailor called William Adams who, while on board a Portuguese ship, found himself washed up on the Japanese coast, where he later founded the Japanese navy. He was known in Japan as Miura Anjin. "We're going to plant trees round his memorial," says Pearce.

"It's from Michael Heseltine telling us where to go."

Rustic vogue

The more the French hear about Britain's economic woes, the more indulgent they become towards the "gentle way of life" across the Channel. The Au Printemps group, with 33 shops throughout France (and one in Andorra) tomorrow launches a month-long British exhibition.

The group's "flagship" store in Paris has filled its windows on the Boulevard Haussmann with British cottage fronts, lawns, privet hedges and flowerbeds. Within, the "men's cottage" shows "une mode tres gentleman farmer." Another rustic scene is declared to be "like those of Stratfordshire" (one of the lesser-known English counties).

One cottage has an idea the smarter commuter villages might care to copy: a tea-cosy which matches the bed cover. The nearby British embassy, maintaining Sir Nico Henderson's fine tradition of commercial enterprise, has also laid on Lambeth's town crier, five policemen and 30 bagpipers.

Bird's flight

The competition to dream up new economic theories and toss off insouciant forecasts seems to grow ever more hectic among the authors of stockbrokers' newsletters. The latest prize must surely go to one Tony Bird, writing about the options market for W. I. Carr.

He declares that the British Government will make an economic U-turn in the spring of next year. This pronouncement is based on the claim that changes of course were made by new governments in 1970-71 and 1974 after approximately nine months. That, says Bird, is the "going gestation period."

So simple that one wonders why all those Treasury experts are wasting their time.

Home truths

As nuclear industry leaders see it, some newspapers have given them a very hard time over the Mancuso Report. This U.S. study purports to demonstrate that long-serving workers in nuclear plants suffer slightly more cancer than the national average.

A first reaction came from top epidemiologists such as Professor Sir Richard Doll, the Warden of Green College, rejecting the Mancuso findings as statistically unsound. Doll, it will be remembered, was the man who established the link between cigarette smoking and cancer.

Now the nuclear industry is also striking back. At a Press conference in Dounreay, the assembled journalists were treated to some official statistics by Cliff Blumfeld, director in charge of Britain's fast breeder reactor. In London, newspaper industry employees suffer 32 per cent more deaths from lung cancer or bronchial cancer than the population as a whole; in Manchester the figure is 41 per cent more.

Before rushing to open the window and take a deep breath of sparkling Cannon Street air, I should like to speculate that the cause is noxious gases given off by overheated typewriters.

Buying goodwill

If and when the Zimbabwe Rhodesia question finds a solution, one of Julius Nyerere's suggestions at the Commonwealth Conference may help to calm any still-ruffled sensibilities. The Tanzanian president feels it might be helpful for the Commonwealth to buy out nervous white farmers in Rhodesia, as was done after Kenyan independence.

I learn that the Kenya Land Transfer Programme, as it was called, has only just come to an end, 16 years after independence. At a cost to Britain of a mere £33m, involving the buying-up of 3.5m acres of land, more than 500,000 land-hungry Africans were resettled. The late Jomo Kenyatta said the scheme was largely responsible for the smooth handover of power in Kenya, and laid the foundations for good relat[ions] with Britain ever since, a [view] with which Whitehall appe[ars to] agree.

Just 25 white farme[rs in] Kenya have resisted gove[rnment] blandishments. Of the re[st,] who could take their sale anywhere they wanted ironically, moved to rather more to Rhodesi[a].

Blue streak

Card in a Portsmouth window: "For sale, grey Af. parrot. Profuse talker. Sui[table] for fishwife or deaf person."

Observer

FINANCIAL TIMES SURVEY

Tuesday September 18 1979

Telecommunications

Telecommunications is widely regarded as one of the key industries of the next two decades. Improvements in technology have led to spectacular growth in recent years, and a similar rate of growth can be expected in the foreseeable future. The main problem will be to compensate by increased manufacturing capacity for the loss of jobs caused by technological development.

Industry of the future

By John Lloyd

ELECTRONICS HAS been seen as the key industry of the late 20th-21st century for a decade: within it, telecommunications is at once the largest market and the key strategic sector. It is universal—every country in the world has a telephone system. It is growing rapidly—world rates of growth are forecast at around 10 per cent into the 1980s, the size of the market leaping from over $30bn now to over $65bn in 1987. It is changing rapidly—the marriage of the computer and the telephone exchange has produced a wholly new type of system. It is greatly widening its scope—telecommunications networks now handle or will soon handle ever-increasing amounts of data, cable TV, electronic mail, viewdata services — as well as the conventional telephone and telex messages. Finally, it has become a crucial part of the industrial/social infrastructure of an advanced society, the loss of which would halt industry, commerce and distribution.

The growth curve in telephone use has been getting progressively steeper since the last war, with North America and then Europe providing the bulk of that growth; the numbers have been almost doubling since 1945, and are forecast to continue to do so until 1990. The rate of growth in the U.S. will slow slightly, though it will remain the largest market until the early 1980s. But Europe will grow at around 14 per cent. Asia is forecast to take off strongly in the early 1980s, Latin America to show stronger growth by the mid-1980s, while Africa and the Pacific countries will turn up slightly (from a low base) in the next decade as well.

It is not surprising that high growth rates are a function of advanced developments, of course: but both because telephone systems are international in their links, and because the telecommunications equipment business is itself increasingly international in its interests (even the mighty American Telephone and Telegraph has moved ponderously into the export markets), the developing countries have a strong voice in the industry. All countries are represented on the International Telecommunications Union: many on Intelsat, which regulates satellite transmissions: all are objects of the attention of manufacturers, if not for present orders (which may be small), then for future business, which will certainly be bigger. The Middle East continues to excite exporters: China is also thought to hold out possibilities. Africa and Latin America are less exciting but are the arenas for fierce competition for all that.

WORLD TELECOMMUNICATIONS MARKET

	$bn.			Annual Growth Rate 1977-87
	1977	1982	1987	%
Switching	10.2	14.8	21.4	7.7
Transmissions and local distribution	10.9	16.1	23.4	8.1
Terminals	3.1	4.3	5.9	6.6
Mobile radios	2.3	2.4	5.0	8.1
Private systems	2.7	4.6	7.1	10.2
Others	1.2	1.9	2.5	7.6
	30.4	45.1	65.3	7.9
North America	14.2	19.2	25.9	6.2
Developed European countries	6.2	10.0	16.1	10.1
Developed Pacific countries	2.4	3.2	4.3	6.1
Middle East	3.6	6.5	10.0	10.8
Other developing countries	4.0	6.2	9.0	8.5
Total	30.4	45.1	65.3	

Source: Laurie, Millbank and Co.

In one sense, there are two markets in telecommunications to which the manufacturers must address themselves—the simple and the sophisticated. The "simple market"—broadly made up of developing countries, with fewer than 10 telephones per 100 population, is one where much of the work to be done is basic laying of major trunk networks, establishment of large and small exchanges for the first time, together with the development of a technical and managerial system which can cope with future change. The "sophisticated market," made up of countries with more than 10 telephones per 100 population, is in part concerned with replacement of electro-mechanical networks with electronic ones, and in part with the introduction of a new range of office communications equipment and with new domestic devices as well.

These two markets are not, of course, so easily separable—especially when one considers that the system now being installed in Saudi Arabia by Ericsson of Sweden and Philips of Holland will be more modern than most in the U.S. and in Western Europe when it is operational. Building up a system from a tiny base now has the advantage of being able to adopt the most up-to-date electronic technology available, without the need to scrap large amounts of electromechanical plant—assuming, of course, that the country concerned is wealthy enough to make the leap into the electronic age in the first place. However, it remains the case that the work now to be done in Third World countries is one of laying the foundations, while that to be done in advanced countries is extensive renovation coupled with thorough modernisation.

The technology which has most affected telecommunications in the past two decades has been the computer, which first allowed the control of the exchange to be computerised and now, with the advent of the microprocessor and the microcomputer, allows the electronic exchanges to offer an enormous range of facilities which are themselves computer-controlled—by computers on a chip. At the same time, this technology offers the possibility of digital telephony—that is, sending the voice messages in pulse codes, which are reassembled into speech patterns at the receiving end and which are at once more rapid and of higher quality than the standard method of transmission, known as analogue. Digital telecommunications is also, of course, much more suited to the transmission of data (which is already digitised), and which represents an increasing share of telecommunications traffic. Most of the major telecommunications manfacturers in the world are now bringing out, or have recently introduced, digital electronic systems both for their domestic and for their export markets. The British Post Office, in concert with its main suppliers GEC, Plessey and STC, has been working for the past five years on "System X," an all-electronic, digital system, to be unveiled this month in the Geneva Telcom 79 exhibition, which takes place under the auspices of the ITU. Other companies—as Ericsson, ITT, CIT-Alcatel and Western Electric—have digital systems on the market and are already making sales.

As the developing countries seek to climb on to the bandwagon of high telephone growth, in all cases using the state as the engine of investment and of development (or joint development with foreign companies), so in the advanced countries there is increasing pressure for deregulation, and for a relaxation in the state or private monopoly. The forces spearheading the anti-monopoly alliance are the telecommunications companies, who are looking for larger markets and higher profits: opposing them are (usually) the PTTs or private monopolies, Governments (in some cases) and trade unions. This taking of sides on the issue of deregulation, or "interconnect" as it became known in the U.S., is a major feature of the telecommunications scene of our times and one which has some way to go still. Both sides use large, moral-philosophical concepts to justify their positions: the interconnect lobby runs a strong line in the freedom of choice and the evils of monopoly power; the PTT/monopoly side emphasises public service, the importance of planning and the need to maintain both standards and personal and national security. While the logic of commerce and power underlies these elevating debates, they do carry some weight in the political sphere, which is one in which telecommunications finds that it is increasingly required to operate both as an industry and as a service.

What are the consequences of this growth, first for the traditional methods of carrying messages, the postal services and, second, for the workers in telecommunications service and manufacture?

In the first instance, postal services are profoundly affected by the growth of telephone use, although it is not quite as simple as the growth of one meaning the decline of the other. Posts can grow at the same time (though scarcely at the same rate) as telephone use, as the UK Post Office has shown over the past two years. The use of mail order catalogues, the growth of circulars, or "junk" mail, even the unwelcome but increasing number of utilities' and other bills: all mean business for the postal services. Yet, although it seems posts can cope with the telephone, it is unlikely that they will be able to continue growth when faced with electronic mail, telemetry (remote meter reading), direct order through viewdata and the other new techniques now in development. By the 1990s, most PTT planners believe that postal services throughout the world must be prepared for decline.

As for the workers, growth should mean security of employment — but has not. The replacement of electromechanical production by electronic and electronic digital production has cut back sharply on jobs in telecommunications plants worldwide — though the service engineers tend to have increased in numbers. This basic difference in the industry is "solvable" only by strong growth in the manufacturing sector compensating, in employment terms, for the large rise in productivity which the new technology brings with it.

CONTENTS

Controversy over PO's monopoly

THE SUPPLY of a telecommunications service throughout the UK is, broadly, a Post Office monopoly, a state of affairs which has been accepted very largely without question since 1969, when the Post Office Act established the corporation.

Earlier this month Sir Keith Joseph, the Industry Secretary, ended that state of affairs when he first announced that the corporation was to be split in two parts—one corporation for posts and National Girobank, one for telecommunications—and second, that he wanted to liberalise the telecommunications monopoly to allow manufacturers to sell their products direct to customers. The split will take some 18 months to achieve legislative form: liberalisation may take as much as a year, and the form it takes will be dependent on a review of telecommunications now going on.

That review will certainly *not show that the Post Office's tele*communications business is unprofitable: for the past four years, it has been easily in profit, and over the past financial year notched up a surplus of £347m, up more than 6 per cent on the previous year. Growth in profits was more than matched by growth in demand—indeed, the level of demand, coupled with a long series of industrial actions by the Post Office Engineering Union which only came to an end last autumn, has meant a large backlog of orders which was being reduced only to go up again as one of the side effects of the corporation's computer operators' strike, recently settled. Telecommunications has a target *of a 6 per cent return on net* assets before the payment of interest, one which it has achieved with ease in the two years since *agreeing the target*. This year, however, largely because of the computer operators' actions—which has delayed the sending of phone bills, disrupted cash flow, sent the corporation to the money markets and lost it an estimated £90m of profit—profits may well be significantly down.

Industrial action apart, then, growth is not a problem for the telecommunications business. So what is?

Technology

First there is technology. The Post Office still relies very largely on Strowger electromechanical equipment to make the connections for its 19bn calls in a year. Strowger equipment, *developed decades ago*, is both sturdy and reliable, and regarded by the older generation of Post Office engineers with much affection. It is, however, more prone to breakdown than electronic equipment, requires more maintenance, takes up more space and is slower and less flexible. In short, it has to go. The Post Office attempted to leap from Strowger to fully electronic in the early-mid 1960s, and failed: since then, it has seen the lead pass to other countries.

The exchanges which are now replacing Strowger and crossbar are the TXE2 (small) and TXE4 (large) exchanges, manufactured by the three main suppliers to the Post Office, the General Electric Company (GEC), Plessey and Standard Telephone and Cable (STC, a subsidiary of the U.S. based multinational, ITT). TXE4 is a largely electronic, analogue system, a stage of the technology which has been overtaken both by fully electronic analogue systems and even more by digital systems. Still, *only eight TXE4 exchanges are* currently in service and 280 are still on order from the major suppliers, awaiting installation *in the 1980s. Thus the Post* Office will actually be buying, for the most part, a semi-electronic analogue system at the *same time as its digital System* X tries to find its feet on world markets.

System X—the subject of a separate article in this survey—carries a great deal on its back—primarily, the hopes and fears of the UK telecommunications industry. A recent survey by stockbrokers Laurie Millbank of the UK electronics sector was downbeat about System X: "Whilst the development of System X represents a belated attempt to catch up with the most modern technology, there is a real threat that this will be "overdesigned" (and overpriced) for export markets. The question therefore remains as to what export potential System X will have when it is finally realised and how the marketing of the equipment will be undertaken. The importance of achieving a significant volume of exports with System X can hardly be understated, and we believe it is fair to say that *the very survival of the UK telecommunications industry depends on System X*. In fact, the National Economic Development Council has stated that *if the UK does not achieve a position as a major exporter this time round it will probably never be possible*." (My italics.) With such stakes, and with the current level of competition, it is perhaps easy to be pessimistic: but the System is already making its future competitors glance over their shoulders, and it remains true that the world's telecommunications markets are by no means sewn up.

Quietened

The manufacturers who must *both make and sell this and* other equipment are also profiled elsewhere in this Survey: it should be said here, however, that their joint co-operation on the System X project has raised fears that effective collaboration might not be possible. To a considerable extent, these fears have been quietened (or are at least no longer so often expressed). Much of the tension centred round the position of STC which, as a subsidiary of ITT which is itself developing (and will shortly market) a digital system—System 12—might be thought to be open to pulls from two directions. Again, the manufacturers have received criticism in the past for not pulling away from what has been felt to be an over-cosy relationship with the Post Office, especially at a time when telecommunications exports dropped from a 25 per cent share of world markets in 1963 to under 6 per cent in 1975. The manufacturers defend themselves by saying they were bound by Post Office specifications and ordering patterns. Both sides have a point, but the net effect has been relative decline and a situation at present which is *seen as being one of* "last chance."

The corporation has not been insensitive to charges that it lacks sufficient marketing and entrepreneurial flair for its own, the manufacturers' and the country's good. The System X project has been pushed along rather faster in the past two or three years, and the commission*ing period of the first exchanges*—due to be cut into the system in 1982—brought forward. At the same time, it has recently set in hand a major upheaval in management structure within the telecommunications business, an upheaval consciously undertaken with the model of the Bell (AT and T) restructuring in mind. The net effect of the changes—which are still proceeding—are that marketing and product development are very much in command, and while technical standards are to be kept high, market signals are cleared to come through both to sales and to engineering. A particular emphasis will be placed on office communications, *which the corporation has identified*—in common with other authorities and large communications companies—as the area offering much the greatest growth. The business seems determined to show that it can compete in the market place as well as any private company.

Following Sir Keith's announcement earlier this month, it is certain that it will have to do so. It has considerable advantages: it will remain in control of the trunk network, and *as System X develops none will* know better than the Post Office what attachments will best suit it. It has thousands of highly skilled engineers on which it can call, and has traditionally strong relationships with the supplying industry, on which it will still exercise a decisive influence.

The manufacturers must regard the new situation with mixed feelings. Clearly, the market feels that they will benefit, since electronics companies' share prices have been *going up on rumours of the* announcement. It is certainly the case that they will have an expanded market in which to *operate, and for which they can* tailor their products.

At the same time, the arrangements previewed by Sir Keith will allow foreign companies into the UK market as well, and these include some of the biggest, hungriest and fiercest companies in the world.

The Western European companies at least will be in the happy position of retaining a relatively protected home market and gaining access to a free one. Many international companies now offer products which UK companies do not, or offer only less-advanced equivalents. Clearly, in the three-five years' grace which they have the UK industry must do some catching up.

John Lloyd

TELECOM 79

TELECOM 79, the international exhibition of telecommunications systems held in Geneva from 19 to 26 September, is probably the largest of its kind ever staged, displaying what Sir William Barlow, the Post Office chairman, has described as "arguably the world's biggest and most significant investment in any single sphere of engineering and science."

There will be major exhibitions by the U.S., Japan, France, West Germany, Italy and Canada, each of which has been alotted a "national day" in which the focus of the exhibition will turn to their products. At the same time, two symposia will run, one in each half of the exhibition: while the World Administrative Radio Conference will begin its expected ten-week course, in which the sharing out of the world's airwaves should be decided.

The exhibition is highly significant for the UK, for two reasons. First, it will be the first demonstration of System X, and enormous *interest* can be expected to be shown in this much heralded system—especially from the competition.

Second, the UK telecommunications industry will appear, for the first time, as a unified body, sharing a common stand designed to display UK thinking on telecommunications, pooling the resources of the Post Office, the three major companies—GEC, Plessey and STC, together with two smaller companies, Marconi and Pye TMC.

The export *capability* for System X has already been unified, under the rubric of British Telecommunications Systems and the directorship of Mr. John Sharpley.

This collusion among companies *which* were accustomed to fierce competition has been arrived at by necessity; under the awareness of the fact that other countries—Japan, France, even the U.S.—were presenting united faces in world markets, and that to fail to do so meant lost orders.

Sir William Barlow, in characteristically optimistic mood, says of the venture—"we are projecting a unified front to show the world that Britain intends to resume its leading position in the arena of world competition for telecommunications markets." He had better be *right*.

Modernising in Europe

THE GENEVA Telecomm 79 exhibition, which opens under ITU auspices this week, will not merely be a timely demonstration of the state of the telecommunications market worldwide, but will also be a particularly interesting forum for a comparison of developments in the leading European countries—West Germany, France, the UK and Italy. It is of course the case that two of the leading—*indeed arguably the two leading*—telecommunications companies in Europe are based in smaller countries—Philips in *Holland and Ericsson in* Sweden—but of interest here is not just manufacturing, but the way in which the PTTS operate, and the methods by which they affect the manufacturing strategies of the leading companies. We are thus interested in countries with substantial home markets: the UK is excepted here since it is dealt with at greater length.

France has attracted most attention to itself in the past four or five years, which has been precisely its intention. From occupying the position of being the joke of Europe when it came to making telephone calls, France has initiated, with some success, a programme of extensive and rapid modernisation at home coupled with *aggressive exporting overseas*. The French PTT has publicly stated its expansion aims: these are—to increase the current *number of 12m lines by around* 2m lines a year (it grew by 1.95m last year) and to get telephone density up from its *present level of* 22.3 telephones per 100 citizens (compared with 29 per 100 in the UK) to double that by 1985, with a total of *20m lines. A large proportion* of the new lines will be electronic: there are presently over 1m, and that total is expected *to rise to 2.7m by 1982*. As part of the PTT's expansion plans, particular emphasis has been placed on upgrading rural *services, with a FFr 1.2bn in*vestment in the Pay de Loire departments.

Flurry

This domestic movement is paralleled by a great flurry of activity in overseas markets, where French telecommunications salesmen are becoming as *pervasive an ethnic trade as* Persian carpet sellers or Scotch whisky salesmen. The two major telecommunications companies, CIT Alcatel and Thomson CSF, acting in impressive unison with the French PTT and Government, are opening doors previously shut to western manufactures, capitalising on their connections with Francophone *African and Caribbean states* and making highly sophisticated entrees into the U.S. markets. A recent example of their flair is the initiative taken by CIT Alcatel when, earlier this year, the company flew in an exchange to Alexandria, in Egypt, and installed it free of charge in a bid to break into the potentially lucrative *Egyptian market—which most* other companies had assumed was sown up by the U.S. While it is not certain what effect the gesture had on the Egyptians, there is certainly talk of the monster contract being split up *among several suppliers: if so*, the French are sure to benefit.

One reason for the early success of the French has been that both companies are now offering digital systems, and CIT Alcatel has done so for some years. It does not always help to start first in this race: but on balance, being first is still probably an advantage, and *the companies have orders not* just from Africa and the Caribbean, but a £100m contract from the Soviet Union as *well to prove the point*.

The two systems offered are the EIO (CIT Alcatel) and the MT (Thomson CSF): both are being ordered for the expanding French network, but both must find export markets if production—and employment—are to be kept at present levels in the companies' plants. At the same time, the French PTT is planning to put a teletext terminal in every home over the 1980s, and will shortly be letting contracts for the production of 10,000 units a month. It is clear that the French no longer wish to be considered the bad telephone joke of the continent.

In West Germany, the Bundespost has a five-year DM 25bn investment programme in hand, which will act as the main spur *on the companies*, of which by far the dominant one is Siemens (though the ITT subsidiary, Standard Elektrik Lorenz is also *significant*). *Post Office pur*chases account for 80 per cent of the spending on telecommunications equipment in the *Federal Republic: the aim is the* ambitious one of raising the current 60 per cent rate of telephone penetration to 100 per *cent in 1985*.

It has recently become clear that Siemens, thought to have been lagging the field in the *introduction of digital elec*tronic switching, has carefully brought on plans for moving into a digital system, expected to *be on world markets in the* early 1980s, a little before the UK System X. The company has been working on a system for most of the 1970s, but in 1977 was forced to admit that its plans had been rendered obsolescent by the advances in microelectronic components, scrapped them, and started again. These tests were carried on in parallel *with the development of an* electronic analogue system, much of which has recently been abandoned in favour of the digital one. Local analogue exchanges will, however, continue in production for some time to come.

The digital EWS system is, like the Ericsson AXE and System X, highly decentralised and thus composed of a complex *of interfacing programmes*. It is in this area where much of the debugging has had to be done: according to Siemens executives, that process has been largely successful, and the company is confident it has a world beater. The company is already a major exporter of conventional exchanges and of telex systems (for which it is famous): it thus has its foot in many markets, and is ranked fourth in the world league of numbers of lines installed—after Western Electric (the Bell manufacturing arm), ITT and Ericsson. Besides this traditional overseas *strength*, the company's *size* means that it also has very considerable economic muscle and a large pool of engineers from which to draw for its projects. For the moment, the EWS system is untested, and its efficiency must be taken on trust. If it does emerge as living up to its creators' expectations, though, then Siemens will be *very well placed indeed to* benefit from the world boom in telecommunications expected to last throughout the 1980s at *least, and its system will provide* stiff competition for the French and the British.

Foreign

Italy, with a less well-developed home market and with substantial foreign ownership of its telecommunications manufacturing plant, is less well represented on the international scene than its three other European partners. The major grouping in manufactur*ing is the SIT-Siemens company*, which in spite of its name has no longer any German connections, being nationalised after *the war. It accounts for around* half of the lines installed in Italy: the other half is taken up by three foreign subsidiaries—*General Telephone and Elec*tronics of the U.S., FACE, an ITT subsidiary, also of the U.S., and FATME, an Ericsson of *Sweden subsidiary*. There are some 11m lines in Italy, not many fewer than in France: but the expansion programme is, at 600,000 *lines* a year, less than one third of the French programme. This means that the domestic manufacturer, SIT *Siemens, is badly placed* to open up an attack on export markets, as it is being encouraged to do by the Government.

In most ways, the three subsidiaries, with access to their parents' digital electronic technologies, are much better placed, in theory at least, to export—though the parent companies may not wish to use the Italian plants as export bases. FATME is to a large extent an exception to this: Ericsson has made the plant its major pro*ducer for computers for its AXE* range, and it exports all over the world. For the moment, however, the Italian PTT has not come down on the side of SIT-Siemens, or of the multinationals, in developing an export strategy. It seems likely that SIT-Siemens will develop its own digital system for the 1980s, but it will have to do *very well indeed to take* a reasonable share of export markets. Telettra, an electronic subsidiary of Fiat with considerable computer expertise, might have been expected to aid the State company, but it appears to have drawn closer to GTE and has signed a technical agreement with the ES subsidiary. As is customary in this context, any *decisions* which the Government may take will affect employment patterns, an area which is at least as heavily mined politically in Italy as elsewhere in Europe.

J.L.

U.S. groups jockey for power

THE U.S. market for telecommunications is the largest and most sophisticated in the world. By common consent, the Bell operating system is both highly efficient and flexible, while the manufacturing companies are often world leaders. The telephone density — at around 140 telephones to 100 households, according to a recent estimate — is by far the highest in the world. The pervasiveness and importance of an advanced communications network in U.S. industrial and social life has contributed to theories, largely generated in the U.S., that we are moving into an "information society," a "post industrial society" or the "technotronic age," where information handling and transmission is as crucial an element as the provision of steel or chemicals to the maintenance of life.

Does that not say it all? Is it not possible to award the accolade of success and draw a curtain on a trouble-free world? Of course, it is not: indeed, in the current period, U.S. telecommunications are going through a highly disturbing series of events in which the major groups which make up the industry are jockeying for power, and in which the verities which have tended to rule in the communications scene are very much in question. Some of the problems, indeed, stem from the very success and high growth described above: like its politicians two decades ago, U.S. telecommunications companies are looking for new frontiers: indeed, must conquer them if they are to avoid a possibly damaging cutback in their industries.

First, some facts—these particular facts being rather more in the nature of projections made by Arthur D. Little, the U.S. consultants. A. D. Little estimates the 1977 size of the U.S. telecommunications market to have been $14bn, and see it growing to around $26bn in 1987. The proportion of the world market will, however, shrink from 47 per cent in 1977 to 40 per cent in 1987. The consultants believe that it will remain the largest market in the world, with Western Europe—whose size is also seen as doubling—the second largest (others estimate that Western Europe may surpass the U.S. by the late 1980s). A. D. Little believes that the numbers of telephones in service in Western Europe will surpass those in service in North America (including Canada) by 1982.

Target

For most Americans, the provision of a telephone is courtesy of the Bell network, formally the American Telephone and Telegraph company, the largest telephone company in the world and one of the five largest companies in the world. It is an operating company for around 80 per cent of all U.S. citizens, and also has a huge manufacturing arm, Western Electric. Bell's massive presence is, of course, regulated—though that regulation, as we shall see later, has been progressively changed over the past decade, and Bell's grip on the U.S. telecommunications scene weakened somewhat. The second company—a long way second—is General Telephone and Electronic, which administers to the telephone needs of 8 per cent of Americans (which means it covers roughly the same amount of ground as the UK Post Office). Like Bell, GTE also has a manufacturing arm, Automatic Electric: unlike Bell, GTE is strong in consumer electronics and industrial electronics as well as telecommunications. The third operating company of size is Continental, currently undertaking a crash modernisation programme.

In the manufacture of telecommunications equipment of all kinds, both Western Electric and Automatic Electric are, of course, strong, while others, like ITT, RCA, Wescom, Stromberg Carlson, TRW and the Canadian company Northern Telecom compete for the rich business systems market, which has the highest estimated growth rate at over 10 per cent. At the same time, the thrusting semiconductor companies are now beginning to look to the telecommunications markets, not simply as clients for their chips but as a sector in which they can market packages, moving up from the smallest components into the marketing of systems, blurring the edges between components suppliers and manufacturers. Again, the convergence between the computer and the telephone has meant that IBM, with its massive command of 60 per cent of the world's computer market, is beginning to feel its way into communications, especially in business systems. The competition is the fiercer because the new technology has exploded the old demarcation lines: for the moment, the market shows no signs of settling down.

Retiring chairman of AT&T, Mr. John de Butts.

While the main market for these companies remains the U.S., all have noted that rates of growth elsewhere, especially in Europe, are beginning to be higher than in their home markets, and all are experiencing some saturation of home demand. This is perhaps especially the case with the giant Western Electric, which has helped put telephones in virtually every American building, and now must find foreign buildings in which to put them if it is to sustain production at present levels. So American telecommunications companies have become more export conscious and are fighting hard for orders. While they would dearly like to compete in Western Europe, they are deterred by the strong presence of the European countries, which generally have the support of their PTTs—the British Post Office will buy from Plessey, GEC and STC, the Bundespost from Siemens, the French PTT from CIT Alcatel and Thomson CSF, and so on. They have thus turned to the next richest market, the Middle East, and have scored some successes.

GTE, for example, won a $500m contract to supply 680,000 lines to Iran's telecommunication company over two years ago—a project which turned sour after the Islamic revolution, and which is for the moment suspended. Western Electric, in a consortium with a number of UK companies, bid hard for the $2bn plus Saudi Arabian network extension contract, which went to the Ericsson/Phillips/Bell Canada consortium in 1977. Nothing deterred, Western formed another consortium, this time with GTE and Continental, to bid for the even richer Egyptian contract, worth initially some $2bn, but worth up to ten times that over the next 20 years. The contract would include the construction of a manufacturing plant in Egypt, supplying both Egyptian and — politics permitting—other Middle East countries as well. The deal faltered, reportedly because of lack of U.S. Government support for the financing: that support has now been forthcoming, but the deal is still to be concluded. Other companies have prepared bids for the contract, and the French in particular have been active in attempting to catch the Egyptian's eyes. The Egyptians appear to be in no hurry to settle their favours — though many believe that the Camp David agreement, together with the promise of U.S. fighters for the Egyptian air force, may in the end sway them towards the original consortium.

In the home market, regulation and deregulation occupies the minds of the companies. Since 1968, when the Carterphone decision allowed a small company (now in the possession of the UK company Cable and Wireless) to interconnect its equipment to the Bell network in the teeth of AT&T, the mighty Bell has been on the defensive. The Carterphone decision was followed by the Specialised Common Carrier Decision of 1971, in which Bell lost its case for a total monopoly over transmission. In 1974, an anti-trust suit was filed in an attempt by the Federal Government's anti-trust division to divest Bell of its Western Electric manufacturing arm. However, this year the "rewrite" Bell (see below) has been reintroduced without the call for Western to be divested.

Framework

Now, the new chairman of the Senate sub-committee on Communications, Mr. Lionel van Deerlin, has set in train the re-write of the 1935 Communications Act, a process which will take some months—possibly years—but which seeks to give a legislative framework to an industry which has changed enormously since the mid-1930s and which, as the bill's drafters ruefully acknowledge, continue to change rapidly even as they attempt to legislate for it. The details of it are not yet generally known, but most expect that it will be broadly hostile to a preservation of all, or even any, of the Bell monopoly, and attempt to deregulate much of the market, allowing unrestricted domestic and foreign competition. Bell, and to a lesser extent GTE, are opposed to what they see as a spirit of unrestricted competition, feeling that some monopolies are natural ones and the most efficient way of running a service. In a ruminative interview given to the U.S. magazine Telecommunications, Mr. John de Butts, retiring chairman of AT&T, strongly defended his pro-monopoly stance by arguing that total deregulation meant the customer paid more. "Competition," he said, "makes sense for most of our economy . . . (but) . . . long ago, it was recognised that the telephone service was one of these activities that could be carried out more rationally and efficiently by one enterprise rather than two or more. What I've been trying to say is that before we abandon that notion altogether we'd better look down the road to see what will happen to the quality and cost of service if we do . . . really what is at issue is how the common costs of communications services will be allocated among various classes of users. Traditionally that allocation as a matter of policy has favoured the residential customer in the interests of assuring the affordability of basic service. Competition tilts the balance to the interest of the large business user. I don't believe it's beyond the capacities of reasonable people to find the balance which, it might come to be agreed, represents the public interest."

The years immediately ahead will determine what that balance will be.

J.L.

Hard sell in the Middle East

THE MIDDLE EAST is not the most lucrative market for telecommunications, or the fastest growing, or the easiest to sell. But it is the newest to open up, and, more important for the telecommunications companies, it is the freest. States with rudimentary systems rarely have firm forward commitments to suppliers even though they may have a traditional circle of manufacturers.

Another glance at the world market graph on Page I will make the point. Of the areas shown all except the three at the bottom of the figure are committed, wholly or in large part, to buying from domestic suppliers.

Of the bottom three, Latin America has attracted the interest of Siemens, Ericsson and ITT for many years, and their presence means tough competition for new entrants. The Far Eastern and Pacific markets tend increasingly towards the Japanese, though the UK remains strong here and there. But in the Middle East, although there is a plethora of suppliers, none is felt to be strong enough to present unbeatable competition.

Thus it is that as US and European companies look for markets for their latest equipment, the Middle East is often top of their list of areas to explore. Here we will include, as the companies often do, the oil-rich African State of Nigeria, since its buying patterns reflect many of the characteristics of the Middle East States.

A recent report by consultants Frost and Sullivan on marketing in the Middle East contained a long list of do's and don'ts to would be marketeers, and stressed the difficulties of the area. "True market sizes," the report says, "cannot be determined by methods developed for Western countries, for markets do not follow the traditional growth patterns of sophisticated developed countries growing in an orderly fashion. The best words to describe market conditions are chaotic and erratic. The problem is that there are no reliable historical market data for the majority of the countries in Africa, the Middle East and the Near East. In many cases, estimates of the very population of a given country can be off by 30 per cent either way."

Distressing

Such lack of data is distressing for communications companies, which more than most like to be armed with sheaves of statistics, and it is a necessary caveat to be borne in mind when reading figures on the market including those reproduced here. While no doubt as accurate as their producers can make them, they are subject to quite dramatic revision as new information becomes available, and estimates differ widely. For instance, the experienced U.S. consultants A. D. Little predict 3.5m new lines for the Middle East in the period up to 1981, and 3.8m more from 1981 to 1985. But since government spending plans may be pushed up sharply, or cut back sharply, in that period, the estimate can only be a "best guess."

These and other difficulties are increased when it is recognised that in most cases those countries with most cash and most desire to instal an ultra-modern telecommunications system most rapidly are usually those with the crudest system at present. They must thus usually depend on outside contractors for *everything*, including eventual management of the system. This posture of extreme dependence on overseas expertise has given rise to allegations of price loading and extensive bribery, which continue.

The Europeans are traditional suppliers to much of the Middle East, and to Nigeria, simply because many of the countries were British or German or Italian colonies. These loyalties have been wearing thin for some time and though Cable and Wireless, the UK State-owned company which provides a wide range of telecom services, still manages or part-manages many networks, British suppliers are no longer automatically chosen, the more especially since they have fallen behind in the technology race in the field of switching equipment. Besides the Europeans, both U.S. and Japanese companies are gaining favour: the first for quality, speed of delivery and asa result of diplomatic pressure, the second on price, speed and persistence.

Saudi Arabia, the richest of the States and thus the focus of the most attention, shows in its purchasing policies the eclectic nature of Middle Eastern buying, and explains why the companies do not regard the market as "sewn up." A U.S. Department of Commerce survey has noted that (a) there is no native manufacture, thus imports make up the entire market (b) U.S. companies have supplied cable television systems (RCA), mobile radio equipment (General Electric) and consultancy work (A. D. Little), together with a large number of such components as thermionic valves, transistors and so on. They were less well represented in telecommunications, where UK companies—Plessey, GEC and consultants Preece Cardew and Rider—and other European companies—Ericsson, Siemens and Philips in particular had all taken significant orders.

The Saudi market made its most dramatic announcement some two years ago when it became clear that of three consortia bidding hard for the $2-$3bn contract to extend the Saudi network, the Euro-Canadian group made up of Ericsson, Philips and Bell Canada had been successful. The usual allegations of sharp practice showered down on the successful consortium like confetti. The Saudis, however, seem satisfied with progress of the work so far, since the contract has recently been extended. At the same time, the country's National Guard are to have their communications system wholly upgraded, for which the prime contractor is the UK Ministry of Defence on a back-to-back contract with Cable and Wireless worth up to £400m. Contracts have still to be placed, but it is likely that UK companies will benefit from the deal.

Egypt is, of course, hardly oil-rich. It is instead people-rich, which means that it is poor. The country has achieved notoriety for the unreliability of its telephone system, and President Anwar Sadat's Government has moved to cure the problem by proposing a 20-year modernisation and expansion programme worth anything up to $20bn. A consortium composed of Bell's Western Electric, GTE and Continental—which did the initial plan for the expansion — has been thought likely to take the deal, which involves the construction of manufacturing facilities for electronic equipment in Cairo. Other companies are seeking to get all or part of the action, but the consortium will be hard to dislodge.

Much high-level diplomacy has been put into the contract, and continues to be. The U.S. needs the business, especially after its comparative lack of success in Saudi in 1977 (Western) and the present collapse of Iranian business (GTE). The combination of hunger and size will make the consortium hard to beat.

Setbacks

Nigeria, which sought to leap forward at least as rapidly as Saudi, suffered some setbacks to its efforts. Its third development plan set aside $1.8bn for telecommunications growth, but contracts, placed with Northern Telecom then with ITT and Siemens, proved ill-framed, orders were cancelled, Northern Telecom dropped out of the market and now a more modest rate of growth has been set in train, with ITT remaining as a major contractor.

In general, the Middle Eastern/Nigerian markets now seem to have settled somewhat after a period where companies treated the area as a latter-day Yukon. Both sides are more sophisticated. The sellers have learnt, often the hard way, not to take on absolute trust the precepts which were described by Frost and Sullivan as "Middle Eastern Myths"—a selection of which are:—

- "They have lots of money to throw around."
- "The oil-rich countries are the easiest places to sell."
- "Prices in the oil-rich countries don't count, because money is so abundant and the urgency (to buy systems) is so great."
- "Schmear (bribe) the right person(s) and you'll be set up for life."
- "You can dump all your obsolete equipment on to the Middle East; since they're so backward anyway, they won't know the difference."

For their part the Middle Eastern countries have reportedly ceased to regard all overseas companies as confidence tricksters.

They now prefer to deal where possible with the State or a State agency, in the belief that here honesty is more likely to prevail. (The Saudi National Guard deal is a case in point.) While few companies will insist that business conditions are easy or pleasant, they continue to invest it with great importance.

J.L.

Exchanges due for a change

THE HEART of the telephone system in Britain, like many other countries, is still based on outdated electro-mechanical equipment—in fact an automatic exchange invented by Mr. Almon B. Strowger, an American undertaker, in 1889.

While Britain and other countries such as West Germany, Netherlands, Sweden and France are all investing heavily in modern electronics technology, the Strowger system is still the predominant system by which telephone calls are connected.

Strowger exchanges are known as step-by-step systems. They are made up of a series of rotary switches called selectors. The switches in the selectors are arranged in vertical banks.

Each time the subscriber turns the dial on the telephone, electric pulses corresponding to the number dialled are sent down the telephone line—which is a pair of copper wires—to the exchange. There the pulses activate a moveable arm in one bank of selectors which moves a certain number of positions across a row of contacts—depending on the digit dialled.

Once the arm has come to rest, the caller becomes connected to another selector and waits to receive the next set of pulses from the dial. A contact on the last selector—representing the last number dialled—is connected to the telephone to receive the call and this should begin to ring once the final selector arm comes to rest.

When originally designed, Strowger exchanges were considered to be extremely fast since it took only a few seconds to make an automatic connection. However, modern telephone demands have put a severe strain on these exchanges which are simple, and once were cheap to instal. These exchanges are slow because most telephones today have numbers of at least seven digits, and international calls can have up to 15 digits, which makes dialling a very tedious and slow business with this kind of exchange.

In Britain, for example, a dial on the telephone instrument operates at a speed of 10 pulses per second, so that when the digit zero is dialled it takes a full second to generate the pulses. In reality the equipment is so slow that an extra space is provided between the digit one and the end stop of the dial to allow it to work properly.

However, in the 1940s another type of electromechanical exchange appeared to challenge the Strowger system. This was Crossbar, originally invented in the U.S. in 1916 but first installed in Sweden in 1926. Crossbar is in many respects superior to Strowger.

It uses a series of horizontal and vertical wires connected to each telephone via the exchange. In very simple terms, to telephone, the vertical wires from one telephone are linked to the horizontal wires from the other at the point where they cross. The exchange is governed by a common control which operates the matrix of wires and makes the connections.

The crossbar matrix and its principle of common control was an important step for the telecommunications industry because it was realised that Crossbar could form the intermediate step towards achieving totally electronic telephone switching.

In fact, many electronic exchanges today are simply modern versions of Crossbar making use of electronics technology to update the design.

The surprising thing is that most British calls are still going through the slow mechanical Strowger exchanges. In 1975 it was estimated that about 87 per cent of British subscribers were still connected to Strowger, in contrast to the U.S. which had made considerable investment in the intermediate Crossbar with its common control system. By 1965 the U.S. had installed its first electronic switching system, the ESS1.

Disastrous

Eventually Britain, after a disastrous start, came up with two versions of electronic exchange: the TXE 2 for suburban and rural areas and the TXE 4 for larger towns and cities. (TXE 1 and 3 had been experimental designs only.) But these exchanges are not as advanced as foreign designs because they do not have the important feature of stored program control.

For totally electronic exchanges, telecommunications have borrowed extensively from the computer industry. Common control of the Crossbar exchange is replaced by stored program control. This type of exchange is highly flexible since all the information about every telephone subscriber is kept in a computer memory.

Changes are made simply by punching out instructions on a computer terminal keyboard. A subscriber's number can be altered in this way—in an electro-mechanical system an engineer physically has to disconnect two wires on the exchange and relocate them.

Electronic exchanges are cheaper, more sophisticated, more reliable—and so need less maintenance—and can be installed faster. The use of computer techniques greatly improves the facilities that can be offered both to the subscriber and the telecommunications authorities. For example, the electronic system can provide a complete billing statement which is impossible using the electro-mechanical exchanges. It also can monitor and analyse the number of telephone calls that are going through the system so that authorities can plan the expansion of their networks accordingly.

Electronic exchanges can be designed using two fundamentally different techniques these are known as space division and time division. Strowger and Crossbar are both time division systems, hence Britain's TXE exchanges are also based on time division because they will have to work side by side with the old systems for many years to come.

In space division systems, a separate physical path— i.e. the two copper wires—is needed for each telephone subscriber. Time division systems do not need such individual connections at the exchange.

In time division systems each human conversation is converted into a string of binary digits (the coded signals which are used in all computer systems). This allows many separate conversations to be interleaved to form a single stream of digits using a technique called time division multiplexing.

Eventually, all exchanges will use this system since it means that instead of each home or business having its own line at the exchange a block of 50 to 100 houses, say, would share a limited number of lines. The number of lines provided would depend on determining statistically the average use of a telephone each day and allowing a good margin for peak use.

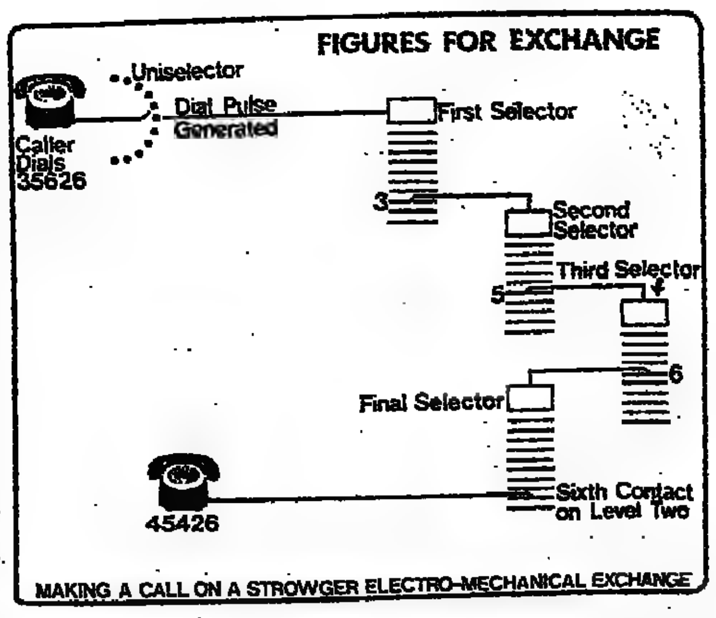
Crowded

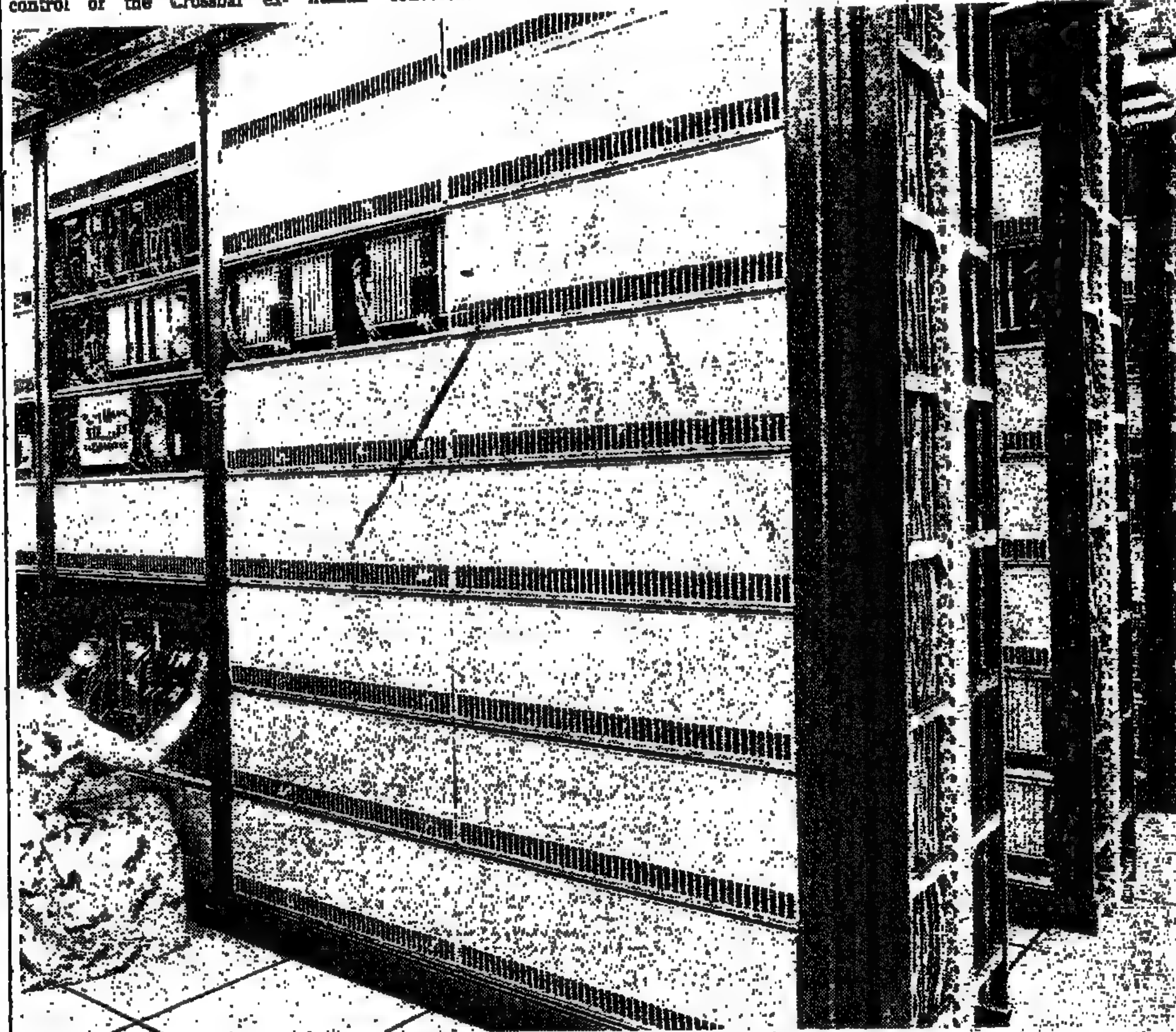
Unlike shared lines on the crowded electro-mechanical, space division exchanges, subscribers connected to electronic systems need never know they are sharing a line with several others. As soon as a caller picks up his receiver, the sophisticated electronics detect this and search for a spare unused line and connect it to the telephone.

This gives great benefit to the telecommunication authorities since it means that not only can they plan the growth of their system more carefully and have more information to hand, but it also cuts down the amount of new, expensive telephone cable which has to be installed each year.

In a world which is becoming increasingly dependant on the computer it is a logical step to extend this technology to the telecommunications network since having digital techniques extending into the home offers many possibilities, including home computers linked to business computers over the telephone network, electronic mail and electronic funds transfer, and automatic reading of electricity and other meters.

Elaine Williams




A Thomson-CSF AXE exchange at Orleans, France.

Debut for System X

IN THE 1960s, when almost everything about Britain's future in fully electronic telephone switching was an unknown factor, someone dubbed the name stuck. The switching system which makes its international debut in Geneva this week, as the focus of the British exhibition, is now known commercially as System X.

The concept is elegant and extremely simple—a family of solid-state electronic modules which can be rearranged in a great many ways to make an exchange of the capacity and other parameters required by the customer. It is "electronic Lego"—modelled upon the popular toy in which standard plastic shapes are snapped together to make the desired design of toy. The modules of System X plug into each other to build up the exchange—anything from the simplest to machines more sophisticated than the system designers can envisage at present.

Ultimately, telephone switching and transmission in Britain is to be integrated through System X, by adding modules which do not yet exist and replacing modules with new designs.

System X is the brainchild of the British telecommunications industry, born of the dual demands of the world's third-largest telephone administration, with its dramatic rates of growth in traffic, and of suppliers which wanted a system with real export potential for a long time ahead.

It is the first technical development in which the entire British industry—customer and all major suppliers—have collaborated as a single team. The Post Office alone has already spent more than £150m on research and development and expects the final bill to be a least £200m. But Mr. Desmond Pilcher, managing director of Plessey Telecommunications, points out that the real strength of System X is that four very experienced teams are pooling resources to develop the all-important computer programs.

"There's every chance we'll have the cheapest and most reliable software," he believes. It could be the decisive factor in selling to many overseas markets.

A decade of research and development in a dozen laboratories in Britain lies behind System X. The basic idea of developing a modular system began to gell only in 1976. Not until the end of 1977 was there hardware to show, but in the last 18 months the engineering has advanced rapidly. The first experimental System X exchange was demonstrated to top Post Office executives this spring. By the end of the year the first prototype models are expected to be ready for testing at the factories of GEC and Plessey. By mid-summer 1980 the Post Office expects to be installing its first prototype in Baynards House, its new headquarters.

Records

In any electronic exchange, computers continously control the process of setting up and disconnecting the calls. Simultaneously they perform the "housekeeping" chores of compiling records of charges, traffic density and system performance. The first task of System X is to set up the call.

The caller automatically indicates the source when he picks up his receiver, and provides the required destination by dialling the number. The system then asks a processor to calculate a path for the connection and to instruct the switching that this is the path to follow.

Once a path is established the electronics must be able to send a continuous stream of speech signals in both directions. It does so by using pulse code modulation (PCM) to make an analogue-to-digital conversion at one end, then reversing the process at the other end.

Thus, speech signals are "sampled" in bits at the rate of 32 times a second and 30 of these bits—two are reserved for housekeeping—are transmitted through the exchange. Inside the exchange they mix with many other digital pulses, each representing a fragment of someone's words.

For the exchange the problem might be likened to one of a railway station in which very long trains are constantly arriving but stopping only very briefly. The porters are rushing around trying to transfer mailbags (the bits) from one train to another in a sequence and at a rate which ensures that each one will arrive at its destination—and in the right order.

The special feature of System X is the way the large number of electronic manipulations needed on each pulse has been assigned to modules. The modules are totally interchangeable and can be put together in such a way as to provide an exchange with the characteristics and performance needed in any given situation, large or small, simple or complex. They are a family of building bricks. The overriding objective has been infinite flexibility: a system adaptable to any situation from the smallest local exchange to the largest international exchange.

The core of any System X exchange will be the digital switching sub-system (DSS), of which there may be as many as 11 to safeguard against breakdown. This will be driven by a dedicated computer, the processor sub-system (PS), representing perhaps 10-15 per cent of the cost of an exchange but about 90 per cent of its intelligence.

In turn, several System X exchanges will be supervised for performance by another computer. The aim must be to establish a synchronous telephone system with the same bit rate throughout, if information is not to be lost or repeated. So, each exchange will have its own atomic clock; and each will be "listening" to the bit rate of several other exchanges and constantly sending out signals to speed up or slow down their bit rates in order to maintain synchronisation.

Another important module is the one which converts analogue to digital signals and vice-versa. This is the analogue line termination sub-system (ALTS). As System X develops, however, the ALTS function will probably be performed not in the exchange but at or near the telephone itself, for example as part of a telecommunication terminal.

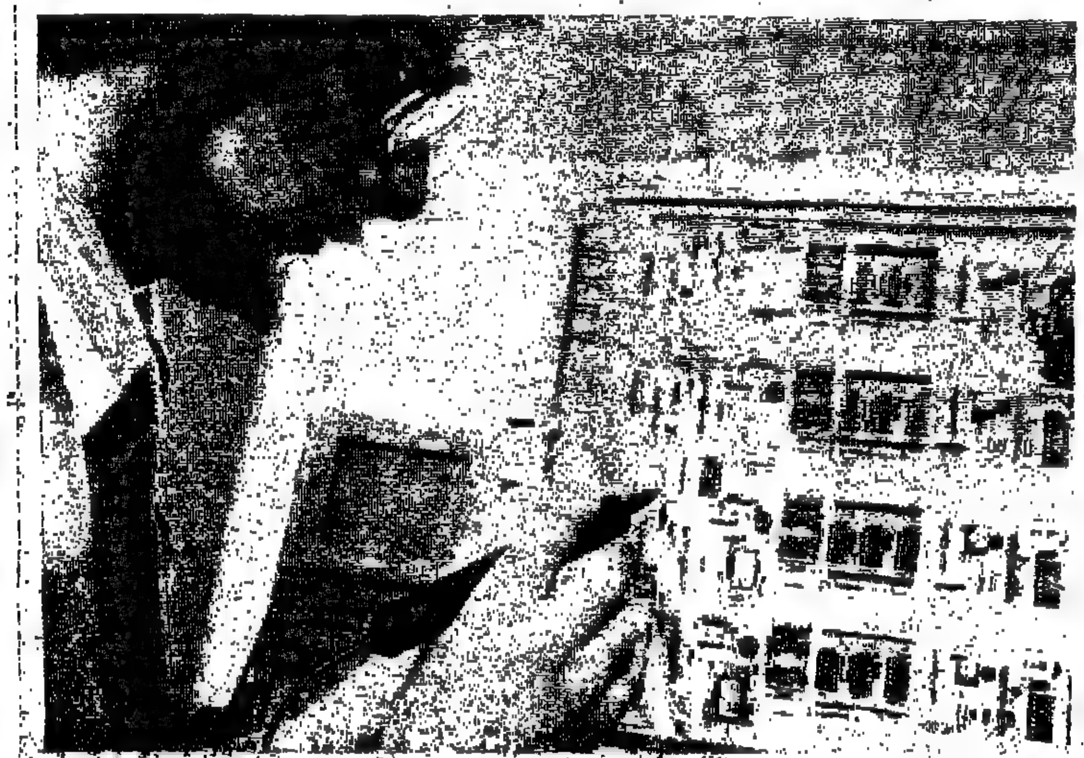
Variety

Altogether, there are seven of these modules under development from which a variety of System X exchanges can be assembled. No less important, however, is the family of computer programs—software packages—being written for the processor sub-system. The PS consists of a large and a small processor together with a number of microprocessors. Between them they provide the "brain" of an exchange. Individual programs—nine are under development—take care of such functions as call accounting, overload control, day-to-day system management, and the compiling of statistics for management planning.

One programe will constantly scrutinise the entire exchange—software as well as hardware—for signs of trouble. This is the maintenance control sub-system (MCS), one of the most exciting concepts in man-machine relationships associated with System X. The engineers will be able to interrogate the exchange by way of this program, using a video display unit and printout to find out what the machine is "thinking."

But the idea is that once the exchange is in routine operation the MCS will call up the local administrative centre (LAC) automatically if it believes it needs human help. Otherwise, it will be entirely automatic.

David Fishlock



A Post Office research engineer uses a logic probe to measure a line card on a System X sub-system

Revolution in cable making

ONE OF the most vital, yet unglamorous, sectors of the telecommunications industry has been cables. However, this sector has also been undergoing a major revolution of its own because of the development of optical fibres—the hair-thin strands of glass which can carry hundreds of telephone conversations simultaneously.

Eventually, optical cables will supersede the conventional copper cables which lie buried in telephone cable ducts throughout the world, but at present they are still very much experimental systems.

Most European countries, and the U.S. and Japan have been active in pursuing the design of telecommunications systems which incorporate optical fibres since they are ideal for use with totally electronic digital exchanges which are now being introduced all over the world. In addition, optical fibres are far smaller than traditional designs, and are immune to electrical interference.

Experimental systems have been installed for evaluation by companies such as Pirelli in Italy, Siecor in Germany (Siecor is a joint venture between Siemens in West Germany and Corning Glass in the U.S.), Philips in the Netherlands, Thomson CSF in France and the British Post Office has several systems installed using equipment from STC, Plessey and BICC.

However, it is estimated that the optical fibre market will not take off until well into the 1980s. A report by Frost and Sullivan earlier this year forecast that the current demand of \$11m worldwide for optical fibre would increase to \$60m in 1987 and then leap to a value of \$179m in 1992.

This potentially high demand would come from the provision of wired home services such as cable television, automatic meter reading and electronic funds transfer. The telephone and telecommunications market alone will be worth more than half the total in 1987, at \$32m, rising to \$120m in 1992 or nearly two thirds the total.

Britain, which pioneered the development of optical fibres in the late 1960s, has already begun to fall behind the U.S. and Japan in the development of commercial applications. Research work has not been moving fast enough into marketable products and although several experimental systems are installed around the country, the routes are short and are not entirely satisfactory from the point of view of gaining good experience of the engineering problems which have to be faced.

The Post Office has been aware of this shortcoming for a long time and has been taking steps to instal more systems with the aim of producing the first generation of optical fibre telecommunications links — a system which would also be a showcase for potential overseas customers.

In selling systems overseas Britain would face strong competition from the U.S. since the U.S. Corning and ITT organisations are leaders in the manufacture of optical fibre. Japan is still an unknown quantity but is certainly with the leaders in performance and the country's ability to export at very competitive prices will make the Japanese a force to be reckoned with.

But for the present, conventional demand for copper cables will remain stable. In Britain about 95 per cent of all telecommunications cable is bought by the Post Office from four principal manufacturers: BICC, Telephone Cables (a subsidiary of GEC), STC, and Pirelli General.

Telecommunications cable can be divided into four basic types:

- External telephone cable which comprises

  (a) coaxial cable used in long-distance telephony on national and international routes.

  (b) "Quad" type junction or trunk cable used to connect main and local telephone exchanges.

  (c) subscriber cable which is used to connect a local exchange to a cabinet in the road, and a distributor subscriber cable used to hook up an individual telephone set to a cabinet or a private telephone exchange.
- Internal telephone cable;
- Telephone cord; and
- Submarine cable.

About 90 per cent of the value of the Post Office's purchases are for external cable. Sales in 1976 were valued at £64.7m and have declined slightly since 1974. The Post Office has managed to keep its demand for copper cable at a fairly stable level because of technical advances which have allowed it to use existing installed cable more efficiently.

By employing techniques such as multiplexing, more telephone calls can be transmitted down a communications link. This means that instead of having to instal new cable and all the necessary ducting the Post Office can delay such work and even avoid doing it altogether.

Once optical fibres become established it would also mean that when a duct becomes full of conventional cables, it would be possible to squeeze in a small optical cable with the same capacity as a conventional cable. Because the optical cable is so much smaller it can fit into ducts congested with copper cables and again save the Post Office the expense of digging up the road to provide new ducts.

Another way of saving on the amount of cable which has to be installed will be by the introduction of totally electronic exchanges coupled with optical fibres. This saving will be achieved because instead of providing a line for each telephone subscriber in an area as is necessary now, the Post Office will have only to provide a proportion of them.

Since at any given time only a few telephones will be in use it is possible to predict this number statistically, so that when a caller lifts a handset the electronic equipment will seek an available line and switch it to the subscriber's telephone. He will never know that he has to share this line with several others.

The development in electronics telecommunications and optical fibres will eventually cause the conventional cable market to decline but since glass is more readily available than copper, which becomes increasingly expensive, there is little cause to regret its passing.

Elaine Williams

Technology and the free society

"WITHOUT MATTER there is nothing; without energy matter is inert; and without information, matter and energy are disorganised, hence useless." (Anthony Oettinger).

THE APHORISM above may stand as a text to a feature on the general theory which lies behind the growth of communications generally, and telecommunications in particular. For while the Anglo-Saxon races are notoriously unreceptive to theoretical matters, it is the case that this industry, unlike previously crucially important industries—coal, steel, chemicals—has surrounded itself with an array of academic underpinnings, explanations and theoretical constructs which—apart from being a minor industry in themselves—have been taken up by industry and used in turn as models for its development and strategies.

The most popular theorist of modern communications remains Marshall McLuhan, a Canadian academic, who coined the phrases "the medium is the message" and "the global village." and who, in a clutch of books written in the 1960s, propagated the general notion that the modes of communication were not merely by-products of a given level of culture, but crucially shaped and determined cultures, social movements and industrial organisation.

McLuhan owed many of his insights to a lesser-known theorist, Harold Innis, whose ideas reached a rather smaller audience in the 1950s. Innis' arguments may be briefly appreciated from this excerpt from his seminal essay, "Minerva's Owl," in which he "attempted to show that sudden extensions of communication are reflected in cultural disturbances."

The use of clay favoured a dominant role for the temples with an emphasis on priesthood and religion. Libraries were built up in Babylon and Nineveh to strengthen the power of monarchy. Papyrus favoured the development of political organisation in Egypt. Papyrus and a simplified form of writing in the alphabet supported the growth of democratic organisation. literature and philosophy in Greece . . . improvement of scripts and wider dissemination of knowledge enabled the Jews to survive by emphasis on scriptures and the book.

In turn Christianity exploited the advantages of parchment and codex in the Bible . . . printing brought renewed emphasis on the book and the rise of the Reformation. In turn new methods of communication weakened the worship of the book and opened the way for new ideologies."

Thus, a given mode of communication is dialectical in its operation: it both is produced by, and produces, a determinant series of cultural effects. While it is clear, given an understanding of the insights of Innis and McLuhan, how historical media acted upon their societies, it is inevitably less clear what is happening around us: we are rarely able to see the wood for the trees.

Crossing

Prof. Daniel Bell, who has written at length on these matters, brings us up to date with a consideration of the effects of the most modern mode, that of the crossing of the computer with telecommunications, now known as "compunications." In his essay, The Social Framework of the Information Society, Bell writes (referring to U.S. experience, similar in many respect to European): "The question we have been raising about the fusion of communications technologies — the rise of *compunications* — are not only technological and economic but, most important, political. Information is power. Control over communication services is a source of power. Access to communication is a condition of freedom.

"There are legal questions that derive directly from this. The electronic media, such as television, are regulated, with explicit rules about "fairness" of presentation of view, access to reply to editorials, and the like. But the power, ultimately, is governmental in that the decisions about a station's future lie with the Federal Communications Commission. The telephone industry is regulated on its rates and conditions of service. The computer industry is unregulated and operates in a free market. The print media are unregulated . . . libraries have been largely private or locally-controlled. Now great data banks are being assembled by Government agencies and by private corporations. Are they to be under Government supervision or unregulated? All of these are major questions for the future of a free society."

Marshall McTuban: communications guru extraordinary

From these lines of thought we may distinguish here two strands. First, can we begin to discern the practical effects compunications will have on our working practices, on industrial and economic organisation? Second, will the apparently inexorable development of the combined technologies, its ever-more pervasive spread and the power which, as Bell and Innis note, it gives to those government agencies and corporations which can assemble data and transmit the information to a multitude of stations, mean that widespread social changes are in train as a result of the possibilities of the technology?

The first of these questions has become familiar to Europeans in the last two years. Compunications has been the subject of Government and other reports, and its potential effects forecast. Most agree that the office, in which more and more people now pass their working lives, will see major changes. The office is, after all, a communications and information centre, in which information is gathered from a commercial, industrial or distributive process, aggregated, digested and split up into discrete messages to workers, customers or other workers in other offices. Commands are given and received, requests accepted or rejected.

The new technology allows these processes to be systematised more rapidly than ever before—in a computer—and recalled immediately not only at the place of work, but at remote terminals linked, through the telecommunications network, to the main storage.

In short—and given the appropriate technology—information can be received, sorted and disseminated at an enormously rapid rate. The productivity of bureaucracy is raised enormously, and so is the level of information which can be brought to bear on any problem. The systematisation of work has taken a leap: its effect on workers is to demand that they become more highly skilled in order to be able to deal with the mass of information their machines make available to them, while the effect on work processes is to make them more efficient and more rapid.

In manufacturing, the effects are less clearly seen. Automated production is already a thing of the present, but industrial robots which can process information at the rate human workers can—that is, have the equivalent to eyes and a brain—have yet to be developed. Once they are, then many more production line tasks could be automated, and may be controlled from central or distributed computers according to information fed to them from designing or planning offices.

The net effect of the progressive introduction of automation into office and production work, then, is to allow streams of different grades of information to flow as directly as possible into the productive process, raising its efficiency and increasing man's dominance over nature which, as Marx once remarked, was a hallmark of civilisation itself.

For many, perspectives such as these raise spectres of a society peopled by automata, controlled by an oligarchy which has total control because of its monopoly of the communications media. It is true, of course, that the more effective the means of communications, especially telecommunications, become, so the more *potential* there is for social control. Most terror stories of the future have something equivalent to the two-way videoscreens which rule Oceania in Orwell's 1984.

Alarm

In short, it is a source of alarm to many that we should be advancing into a world in which privacy may be threatened because of the potential our rulers will have for knowing a great deal about us whenever they wish to.

These issues are not confined to future ages. Even now, the growth of data banks, and the increased demand for data transmission through public telecommunications networks, has caused several governments to study the problem and to consider ways of regulating data flows at least in part in the interest of privacy. At the same time, the burgeoning of police data banks, holding records on everyone convicted of any offence, from the most minor, to which a policeman on the beat may in theory have instant access, has caused concern. So they should.

As a corrective to some of these fears, it might be observed that particular communications modes are, as we have said, interactive with society and with its polity, not determinant of it. It is the case that the communications systems we are developing could be a powerful weapon in the hands of a dictator.

At the same time, the spread of cheap communications media and computers means that control—if defined as ownership of new technology — is extraordinarily diffuse. The key question is the polity itself: where it is inimical to freedom, technology will aid it. Where it is supportive of freedom, technology can be made to aid that, too.

J.L.

Satellites for all purposes

IT IS still less than 22 years since the world's first artificial satellite, Sputnik I, orbited the Earth in 1957, and little more than 16 years since the first effective communications satellite, Syncom, was launched in 1963. In that time, communication by satellite has progressed with almost astonishing rapidity, and is now one of the most effective methods of linking the far corners of the globe.

The extent of the technological revolution already achieved in satellite communications can be gauged from the fact that, whereas Syncom had capacity for 50 two-way voice channels or one TV channel, the latest breed of satellite now under development by Hughes Aircraft Company of the U.S. for Satellite Business Systems of the U.S. will have capacity for 13,900 simultaneous telephone calls. Even bigger satellites are envisaged for the future.

So extensive has the world communications satellite system become that it is estimated that there are over 200 earth stations now in use, in over 100 countries, providing well over 217 antennae, with many more already planned for the 1980s.

Although there has been a substantial growth in the use of satellites for a wide variety of civil missions in recent years—including weather forecasting, earth resources monitoring, navigation and environmental studies — communications remains one of the major applications with several major international organisations involved.

The International Telecommunications Statellite Organisation (Intelsat), is the most significant of these. More than 100 countries are now members of this organisation, linked through a complex system of more than 100 ground stations and a series of satellites permanently located over the Atlantic, Indian and Pacific Oceans. The system's latest satellites, the Intelsat Vs, have an operational capacity of 12,000 telephone circuits plus two TV channels. For the future, the Intelsat VI series of satellites for the late 1980s will be even larger, and technologists can already visualise the day when satellites of 100,000 circuits are in orbit. New technological developments currently under study include multi-beam antennae capable of providing highly concentrated "pencil beams" targeted to earth stations on the earth's surface; direct inter-satellite links; and a variety of digital communications techniques.

Comparable

In addition to Intelsat, another comparable organisation is being established called Inmarsat—International Maritime Satellite Organisation. This will make it possible for ships at sea to communicate instantly with shore stations thousands of miles away by means of on-board transmitters and receivers linking directly with the satellites. The U.S. Navy has already been using such a system for some time, and more recently it has also become available commercially in the U.S., through the Marisat satellites.

A programme of development of European maritime satellites is also under way, called Marecs, derived from work also already being done by the European Space Agency on what is known as the European Communications Satellite (ECS). The first two Marecs satellites are scheduled to be launched by the European Ariane rocket in 1980 and 1981. The Inmarsat network is expected to have six satellites initially, comprising three Marecs and three Intelsat Vs equipped with maritime payloads.

In order to meet the requirements of the European posts, telecommunications and broadcasting administrations for point-to-point communications (telephones, telegraph, telex, Eurovision TV programmes and data transmission) the European Space Agency some time ago developed the Orbital Test Satellite (OTS). The first of these was lost on launch in 1977, but a second has been functioning successfully since 1978. The aim of OTS-2 has been to demonstrate the performance of on-board satellite equipment and to provide an experimental, pre-operational traffic capacity of 6,000 telephone circuits or 4,500 telephone circuits and two TV channels.

This work on OTS is already leading on to the development of the European Communications Satellite (ECS), the first satellite of which is due to be launched aboard the Ariane rocket in late 1981. Earlier this year, an organisation called Interim Eutelsat, comprising 17 of the European telecommunications administrations, signed a $200m agreement with the European Space Agency for the provision of five satellites over the next decade, comprising the "space segment" of the ECS programme.

The ECS programme will provide Europe with a regional communications system, covering telephone, telex, TV and data transmission, with a capacity equal to 20,000 telephone circuits or 12,000 circuits and some TV channels.

Also under development in Europe is the H-Sat, a heavy experimental satellite of about 900 kg for launch aboard the Ariane rocket in 1982. This is intended to be the forerunner of a large platform in space which will carry a variety of future television and radio communications payloads for direct transmission into homes or community antennae, enabling the dissemination of TV and radio programmes over a much wider area.

Beyond these developments, a trend is emerging for what are in effect "regional satellites" —the provision of satellites, ground stations and other related ground infrastructures, such as telephone and TV stations where these do not already exist—so that particular regions can have their own satellite communications

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Viewdata still in its infancy

OF ALL the new services which are being born of the marriage between telecommunications and computing, viewdata is the one which has attracted the most public attention.

The reason is probably that it is a hybrid which is grafted on to the domestic television set and therefore promises a substantial new range of communications and information services to the ordinary householder.

In spite of the very considerable publicity accorded to viewdata, and particularly to Prestel, the British Post Office's pioneering version of it, many people have still not grasped the extraordinary and revolutionary posibilities of the service.

In simple terms, viewdata *is* a method of storing words, figures and graphics on a computer in such a way that they can be displayed on a modified television set. The term viewdata is used to describe all the systems in which the information is transmitted from the computer to the sets via the telephone network. A related system, generically called teletext, uses the same basic format, but the information is transmitted on spare capacity of the normal television broadcast channels.

In the UK the main viewdata system is the Post Office's Prestel, although there are now a number of private systems under development. The two teletext systems are Oracle, transmitted by the independent television network, and Ceefax, sent out by the BBC.

The terminology has become extremely confusing recently because of the development of rival systems by the French, who in their usual fashion have insisted upon their own words. As a result the word "teletex" is becoming used to describe all methods for displaying computer generated text on remote television screens.

However, the only country to have systems in public service at present is the UK, where Prestel was launched for domestic users in the London area earlier this year. An extension to business users is expected in the autumn, with a gradual widening of coverage throughout the UK during the next three to five years.

Calculator

The system allows a user to call up any of some 200,000 "pages" (the information which can be displayed on a screen) by pressing buttons on a calculator style keypad which remotely controls the set. A permanent connection is made from the set through a standard jack plug into the telephone system. The system incorporates automatic dialling, so that the user only has to press a button in order to be connected to the computer.

As soon as he is connected the index page will appear, which will guide the user through a system of subsidiary indexes to the information which he wants. Alternatively he can dial straight in to the desired page by looking up its number in a printed directory. The user has to pay the local telephone call charge and a special Prestel connection charge of 2p a minute while using the service. In addition he has to pay a charge for each page he views, levied by the organisation which provided the information. This can vary from zero in the case of advertising material or public information to 10p or 15p for specialised business information. So far about 150 different organisations have contracted to provide information for the service. The Post Office acts only as a carrier and exercises *minimum* control over the information which is disseminated by the service.

In addition to the general service, Prestel also allows for closed groups to use the system to store information available only to a limited number of users, who are given an appropriate password.

Those organisation which do not wish to use Prestel can establish their own computer for a private viewdata service. Several large companies are now commissioning such systems from manufacturers, including the General Electric Company and Philips. The main use at present is for the display of internal company information.

At present the information stored in the Prestel computers spans just about everything that could be published in newspapers, magazines or booklets. It also includes a substantial electronic encyclopaedia. Weather reports, timetables, theatre and entertainment guides, business statistics and sporting information are included in the general information services. Some organisations like the discount warehouses have already started to use the new medium for advertising, and some ingenious entertainments, including quizzes and games, are also provided.

However, it is the interactive capability of the system that radically distinguishes it from all forms of conventional publishing and whose potentialities have yet to be exploited. The fact that the user is connection directly to a computer means that he is able to send information or questions back to the computer as well as to receive it.

Limited

This possibility is limited by the fact that most users will have only a simple numerical key pad and also by the fact that the transmission rate from user to computer is rather slow. However, the system is quite adequate to allow a user to answer questions from the computer by pressing buttons to signify "yes" or "non." He can also use the keypad to control a pointer on the screen, or he can type figures to fill a designated space in the frame. This last facility enables him to tell the computer personal details about, for example, a *house price, to enable a programme* to calculate his mortgage. He will also be able to type in his credit card number to make a direct purchase in response to a Prestel advertisement.

All these facilities already exist or are in an advanced stage of development. The question which is now exercising the Post Office and the television set manufacturers is: How many people will want to use the service, and what will they mostly use it for?

The present consensus appears to be that Prestel will appeal mainly to business users in the first few years but that its appeal will gradually widen to the general public. However, the speed with which this happens is all important, because the essential feature of Prestel compared with other computer information systems is cheapness based on mass production of standard television sets. The service is therefore entering a critical "take-off" phase in which its popularity will be related to the cheapness of the special microelectronic components needed, which in turn will depend directly on the popularity of the service. The price of information is also, clearly related to the number of users.

From its design phase in the early part of the decade, Prestel was conceived as a mass information system. It is therefore very important for the Post Office, the set makers and the providers of information to achieve the widest coverage in the shortest possible time.

The Post Office, which is prepared to spend some £100m over the next five years setting up a network of identical Prestel computers, is also keenly interested in the possibility that the system will stimulate greater use of the telephone network.

However, by the time Prestel is accepted as a normal item of home equipment, it will probably have changed considerably. In principle the adaption of a television set to display data converts it from being a piece of home entertainment into a computer terminal.

As the cost of microelectronics and other computer components continues to fall, it will be possible to adapt the television set to become first an "intelligent terminal" (with its own computing power and memory) and then a computer in its own right. The present trend of costs makes it likely that Prestel sets with full computing abilities will become commonplace consumer goods within the next five to ten years.

That means in practice that the television screen would be linked to a low cost electric printer and a substantial memory with a microcomputer somewhere in the middle. The whole mini-system will be controlled by a full typewriter style keyboard, and it will be able to communicate with the Prestel computers and switch other domestic systems through the telephone network.

The possible implications of such a system require a great leap of the imagination to comprehend. Electronic mail, electronic newspapers and electronic shopping are among the more obvious possibilities. More fundamentally, a powerful information network of this sort could in theory enable many people to do much of their work at home rather than going into the office. Whether this actually happens will depend on a range of social factors and on the price of transport. However, it is not far fetched to envisage that viewdata networks will help to bring about some fundamental changes in the organisation of society.

Max Wilkinson

The Post Office Prestel service went into operation earler this year. One of its uses—as shown here—will be to help the deaf to keep themselves informed

Satellites

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systems rather in the same way that Europe is developing its own communications system. Such systems have been under study for some time in the Middle East, South-East Asia and parts of Africa and South America. The various consortia of companies involved in communications and other satellite developments are especially interested in developing these packages for the countries in the Third World, and some substantial business seems likely to be generated in this way through the 1980s. Such groups include the MESH consortium, comprising Engins Matra of France, Erno from West Germany, SAAB-Scania of Sweden, British Aerospace's Dynamics Group, Aeritalia from Italy, INTA from Spain and Fokker-VFW from Holland. TRW Systems of the U.S. is associated with companies in the MESH group.

But the biggest "regional satellite system" user of all is still the U.S., where various organisations have been extensively engaged in communications satellites for some time—the most significant being the Communications Satellite Corporation (Comsat) itself, which not only manages the Intelsat system on behalf of the countries that own that system, but also engages in other communications satellite activities. One of these is the Satellite Business Systems (SBS) group, set up by Comsat General Corporation (a wholly owned subsidiary of Communications Satellite Corporation), IBM and Aetna Life and Casualty. Three satellites are being built, by Hughes Aircraft, with the first launch planned for mid-1980. The aim is to provide a domestic U.S. satellite system for private users with large communications needs, giving them instantaneous data, facsimile and tele-conference facilities from 1981.

Western Union Telegraph Company already has two Westar communications satellites in orbit over the U.S., Westar-1 launched in April, 1974, and Westar-2 in October, 1974. Westar-C has been launched recently, giving capacity for 600 two-way telephone calls, colour TV or high-speed data transmission for commercial users in the U.S.

For the future, the Communications Satellite Corporation has confirmed that it is *studying the development of a* system that will provide subscription TV service directly to millions of U.S. homes via satellites. The satellite TV service would offer several programme channels directly to small antennae on the roofs of subscribers' homes. Subscribers would pay a monthly charge that would cover the total service, including the use and maintenance of the antennae. This monthly charge could be less than many families now pay for a single night out at the cinema.

Potential

According to Dr. Joseph V. Charyk, president and chief executive of Comsat, the technology for such a system exists "and we are investigating the business potential for satellite-to-home TV services." This type of service is already being experimentally tested in Japan, while Canada and the U.S. have already experimented with it. Dr. Charyk said the new service could be introduced as early as 1983, provided the U.S. Federal Communications Commission approved.

The new service, with its monthly subscription and no commercial advertising, would be different from and not a substitute for existing commercial TV networks and local TV stations. Comsat's own interest in this field, said Dr. Charyk, had been spurred by technological developments in the satellite field, by the recent growth in the U.S. of Pay-TV, the continuing energy crisis which limits travel, the strong sales of home videocassette recorders, large screen TV sets and home computers.

Comsat is pursuing discussions with other companies, because development of a satellite TV service into people's homes will require collaboration with a variety of programme producers, satellite and antennae manufacturers and servicing organisations.

Michael Donne

Unions' positive attitude eases labour pro blems

TELECOMMUNICATIONS workers have been brought forcibly into the public eye in the past 12 months or so by a *combination of strikes* which have affected Post Office services and, less noticeably, redundancies as the telecommunications equipment manufacturing industry presses on with the modernisation sweeping the whole field.

The effects of the disputes involving telecommunications workers are still being felt, particularly from the strikes involving computer and clerical staff, whose action has halted the issue of all computer-processed telephone bills since April.

While for most subscribers, the effect during the dispute has been one of annoyance at their regular budgeting being upset and at the disruption the action caused to some computer-based telephone services such as the numbers of new subscribers not being listed with Directory Inquiries, the effects will *obviously be principally* felt when the Post Office puts out six-monthly and then, very quickly afterwards, further three-monthly bills. The Post Office, worried at the difficulties such large bills might present to *many subscribers*, has been advertising to persuade customers to use telephone saving stamps.

For the majority of the members of the two unions involved in the dispute, the main issue over which the action was taken was pay, though for officials in the unions, in the four other unions in Post Office telecommunications and in the Post Office a more important issue in some ways was the Corporation's attempt to bring in what it terms as a pay "spine" for all 200,000 telecommunications workers.

The spine is designed to bring all unions in the business to a common settlement date, to allow the Corporation to begin a complex regrading exercise and to improve productivity. Some measure of agreement on the issue was reached with the *unions, but the final fate of the* initiative rests on a special conference in November of the largest and most influential union in the telecommunications side of the Corporation, the Post Office Engineering Union (POEU).

The effects of industrial action by POEU members last year are no longer being directly felt by the public, or by the business community's operations, some of which were severely disrupted by the action.

For the POEU, though, the main achievement of the dispute—a reduction in the engineers' working week from 40 to 37½ hours—while not in line with the union's target of a 35-hour week, was an important part of the union's response to the Post Office's planned introduction of new technology, particularly in the telephone exchanges, *which some members* of the union saw as a direct threat to their jobs.

The reduction in hours—still the most significant step within the trade union movement towards the TUC target of a 35-hour week — is just one of the conditions listed by the POEU as the price of agreement to the *Post Office's modernisation* plans.

Modernisation, the central issue for telecommunications workers, has brought the group, particularly those working in private sector equipment manufacture, to the forefront in a different way: instead of improving their conditions, some workers have seen theirs collapse into losing their jobs.

Plessey, for example, one of *the Post Office's four major* telephone equipment suppliers, has had to shape its workforce to fit in with technological advance and the Post Office's decision to replace the Strowger electromechanical switching system, — invented in 1889 and *despite its limitations of slow*ness, inflexibility, high maintenance costs and telephone noise, still the backbone of British exchanges — with electronic exchanges, and in particular System X, a modular system based on microelectronics and allowing virtually continuous development and improvement.

In 1977 Plessey axed 1,800 jobs on Merseyside by closing factories at Speake and Kirkby, and followed that decision a year later by cutting 600 jobs at its main *Edge Lane plant* in Liverpool, publicly blaming the redundancies on a fall in *demand* for the traditional Strowger system and the change to the less labour-intensive electronic equipment.

Warning

This kind of effect of technological change stands as a grim warning to other telecommunications workers, and the response to modernisation is the one single issue that shapes the thinking of the unions in the field.

The Government's intention, for example, to separate the Postal and Telecommunications businesses of the Post Office, though fiercely opposed by the largest postal union, the Union of Post Office Workers, has the support of the two largest telecommunications unions, the POEU and the Society of Post Office Executives, on the grounds of new technology.

The POEU, in a weighty statement on the whole subject, "The Modernisation of Telecommunications," prepared for a whole-day policymaking debate at its annual conference three months ago, points to the disparity of profit between the two businesses, to the fact that the postal service is labour intensive, with a low demand for capital investment and in recent years a static or declining volume of business, whereas the telecommunications service is capital intensive, with a £1bn annual investment programme in technical advancement and an expanding volume. It argues with the Carter Committee's report in 1977 on the Post Office that "the present combined management has led to over-centralisation, poor delegation and slow decision-taking." The POEU firmly believes that the Post Office's telecommunications business needs to respond *quickly and positively* to subscriber and market needs, and that telecommunications management needs to take a strategic view of the fast-moving development in the industry without the additional responsibility of a *postal business* with very different problems.

The union's *response*, though, to suggestions that the Government might be considering either breaking the Post Office's monopoly to supply, instal and maintain telephone equipment or hiving off the particularly profitable parts of *the telecom*munications business to the private sector has been to close ranks firmly against it, though for exactly the same reasons.

Mr. Bryan Stanley, POEU general secretary, made his union's position clear at the recent TUC conference at Blackpool, which adopted a motion opposing the break-up of the letter and telecommunications monopolies, and any hiving-off with the threat that the next Labour Government would be urged to re-nationalise any parts of the Post Office sold to the private sector without compensation.

He said: "We are absolutely determined to defend the Post Office's exclusive right in telecommunications because it provides the best possible service to the customer." He also said that if the telecommunications monopoly were undermined, the *Post Office would be likely* to have to increase its borrowing or put up its charges or reduce its programme of modernisation in order to try to offset the loss which would be invariably suffered by its business.

Such a positive approach to new technology might seem strange to those who have seen such *implacable opposition* as that, for example, of the print unions to the new newspaper production methods, but though the responses of the print unions and the POEU take different forms, they are both based on protecting the interests of the unions' members.

The POEU has faced and answered the question of whether the Post Office telecommunications business should only provide a basic telephone network whose rate of growth must eventually diminish as full penetration of the market is reached, or whether it should provide a new and expanding range of products and services, covering the whole field of telecommunications. If the former, the union reasons that manpower levels must gradually decline; if the latter, current manpower levels would be assured, with the prospect of further job opportunities to come.

Post Office estimates of engineering manpower forecasts bear out the union's positive *approach*. The Corporation's forecast is that although the number of men in post will peak sometime this year, the decline over the next 10 years will only be marginal.

As a result, the union has concluded a new technology agreement with the Post Office, which in return for the union's willingness to co-operate with *new tech*nology guarantees job security for the union's 120,000 members over the 10 year period of the Corporation's forward planning.

The union has made it clear in its study on new technology, however, that job security will only be one element of its price of agreement, together with *adequate training for the new* systems, sufficient job satisfaction, improvements on grading, hours, productivity, leave and retirement benefits, as well as pay, and has ruled out a one-off package deal as it will need to respond to the progressive flow of the technological changes.

Though the price may be high, *the union maintains* it is fair, and for British management, growing wearily accustomed to seeing proposals for the introduction of new technology meeting first *fear* and then implacable opposition, the positive, responsible *attitude* of the telecommunications unions to major changes in their conditions and working practices must be a heartening one.

Philip Bassett

Search for new markets

WHO IS selling where, why and how? Marketing strategy for telecommunications has no logic; it is a question of finding the markets where you can and moving fast to offer a deal that will at least match the competition. While some companies may have an entree to various countries because of national relationships, so often it is a *game of chance*.

Mr. John Sharpley, managing director of BTS (British Tele*communications Systems*) the company set up to export System X, the British digital telephone network, summed up the situation when he said: "In times when political situations change, one must be opportunistic. One has to be very well informed on all fronts."

Never before has market research *played* such an important part in getting contracts. Situations in some countries can change abruptly and where a company thought that its contract was a safe bet, can find itself out in the cold.

It is easy to see why some telecommunications companies do so well. Speak to the international sales managers and mention a country. Immediately they will have the facts and *figures to hand of the country's* situation, how many telephone lines it has and how many more it requires.

Without doubt the market place is becoming tougher all the time. Most companies look to the Far East, Middle East, Africa and South America for their business.

Markets in Europe are usually the territory of the home manufacturers and have the situation has intensified. Because of the introduction of less labour-intensive equipment and the resulting redundancies that have affected most of Europe, PTTs and telecommunications administrations usually feel duty bound to use home-manufactured equipment.

There are a few notable exceptions however, Finland being one. Finland has many telecommunications administrations for different areas. These are free to introduce whichever equipment they find suitable. In Holland, the Dutch PTT specified that it would use Philips PRX equipment and L. M. Ericsson AXE equipment, although no AXE equipment is yet in service.

The most recent and unusual exception to the home buying rule has been Germany. Siemens has enjoyqed a favourable position but the German Bundespost has invited companies to make *presentations of their equip*ment. It appears that the only stipulations are that the equipment is digital and that the company has a German-based manufacturing subsidiary.

West Germany intends to have a set up similar to that in Holland, with two of the three preferred manufacturers and *suppliers of digital equipment*. Philips is hoping that its new digital equipment will be chosen at least for preliminary trials.

Markets outside Europe, for example those in Japan, the U.S. and Canada, are becoming equally tough for the home manufacturers. So much so that many have expressed a desire to get into Europe. While it is highly unlikely that they will have much *success* in the area of main exchange equipment for the public networks, some are using the backdoor route of licensing agreements for customers' apparatus and PABXs.

Continental Telephone Corporation of the U.S., recently acquired a stake in the Service 800 organisation whose holding company is based in Holland. CTC said that this move marked *the company's initial entry into* Europe. The Canadian company, Northern Telecom, has also expressed a desire to get into European markets and is actively engaged in doing so in the main exchange business.

The company has placed a bid with the Irish PTT for the updating and expansion of the Irish network. Northern Telecom is thought by some observers to be very well placed. The Japanese company NEC (Nippon Electric Company) is looking for European business. It too has placed a bid in Ireland but is also carrying out market analysis with a view to introducing its PABXs in Europe.

It is doubtful whether contracts such as the Saudi Arabian one will occur again and that *is why inroads have to be made* wherever possible, even if it is only with subscribers' apparatus.

In an effort to get contracts and be competitive, telecommunications companies are offering various deals depending on the local requirements.

Simple

Mr. Sharpley says that they will most certainly be able to offer local production and training both in the UK and in the country concerned. Manufacture, he claims, is relatively simple and for developing countries, manual methods could be used.

He feels that BTS's advantage is in being able to offer a total network with exchanges that were not developed in isolation but are part of a family developed with collaborative effort.

"*Finance is of crucial* importance," he says. "Government aid, loan interest loans are all a national situation." However, he feels that the initiatives have to come from industry. "If support is needed *we must ask for it*."

It appears that there are some people with a great deal of faith in the British System X. Approaches over finance arrangements have already been made to BTS by several British merchant banks.

In France CIT-Alcatel is getting quite a reputation for its success in the telecommunications market. In 1972 the company negotiated a deal with Poland which involved local production. Next year sees the start of production in Syria by the Syrian-owned company, Syrcotel.

The same man, Yvon Ferrette, who is now director-general of *Syrcotel*, was *also involved* in getting local production underway in Poland. CIT-Alcatel is also quite happy to let those countries with local production of its digital ELO system export as well.

The French have M. Norbert Segard, Secretary of State for Posts and Telecommunications, as their international diplomat. When it is considered necessary, he will visit a country with a *team of PTT officials* to try to persuade that country to buy French products. This does not necessarily mean pushing CIT-Alcatel equipment as there is also Thomson-CSF in the market with its digital range of MT switching equipment.

At the moment the two companies are almost complementary in digital switching. CIT-Alcatel has chosen to develop the lower ranges of *exchanges and* Thomson has developed transit and gateway exchanges although its products are newer to the market and therefore not so well proven.

However, this happy balance cannot be expected to last since both companies appear to be committed to developing a full range of digital switching equipment.

This is another example which Mr. Sharpley draws on to show BTS's advantage. *As* he points out, having three companies working with the British Post Office means that a united effort can be made which can therefore receive unified support.

Philips' claim to fame is that its system has recently been extended in Holland to 1m lines. The company feels that with this many lines in service for one PTT, the system is effectively *proving itself*. The company also has the advantage of being a member of the consortium that won the Saudi Arabian contract.

While this is all very comforting, Philips accepts that even with the demanding schedules for Saudi Arabia, it still has to look for further business. It is currently turning its eyes to Malaysia where a decision is expected on public network expansion before the *end of the year*.

Ericsson also has a stake in the Saudi Arabian contract but was recently disappointed in New Zealand when Japanese equipment was chosen for a long-term contract.

Ericsson was hoping to export from Australia where its AXE equipment has been chosen for the network and where it also has a *manufacturing base*. However, the Japanese price was too low even with the additional costs of import duties from outside the country (the import duties from Australia would have been lower).

It is understood that the Japanese came to an agreement whereby they agreed to take an *increased level of agricultural* products from New Zealand. Naturally, companies operating within the EEC would not have been able to offer such a deal.

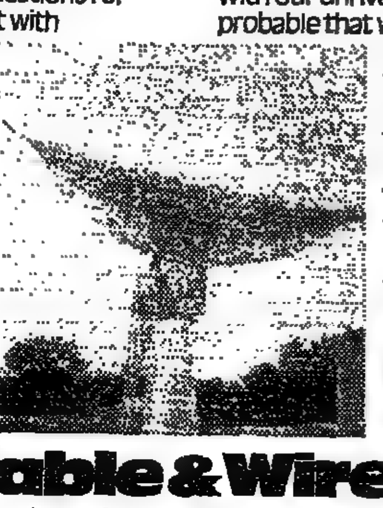
Despite this, however, Mr. Paul Henson, chairman and chief executive officer of United Telecommunications, America's third largest telephone company, urges caution.

He claims that the Japanese can sometimes underbid for the *main part of a contract* by as much as 20 per cent. If, however, there are additional equipments to be placed at a later date, these could prove proportionately more expensive.

South America is an area where many companies throughout the world are looking and in some cases local production *is not a requirement*.

Some of the countries in South America are fairly small and could *not support* a local industry since there simply would not be enough equipment required to keep the plant in business. In these cases, and for those who can remember how, its a question of going *back to the old style contracts* —just a straight sale.

Denise Clark
Electronics Weekly



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AXE: the best digital switching investment for telephone administrations?

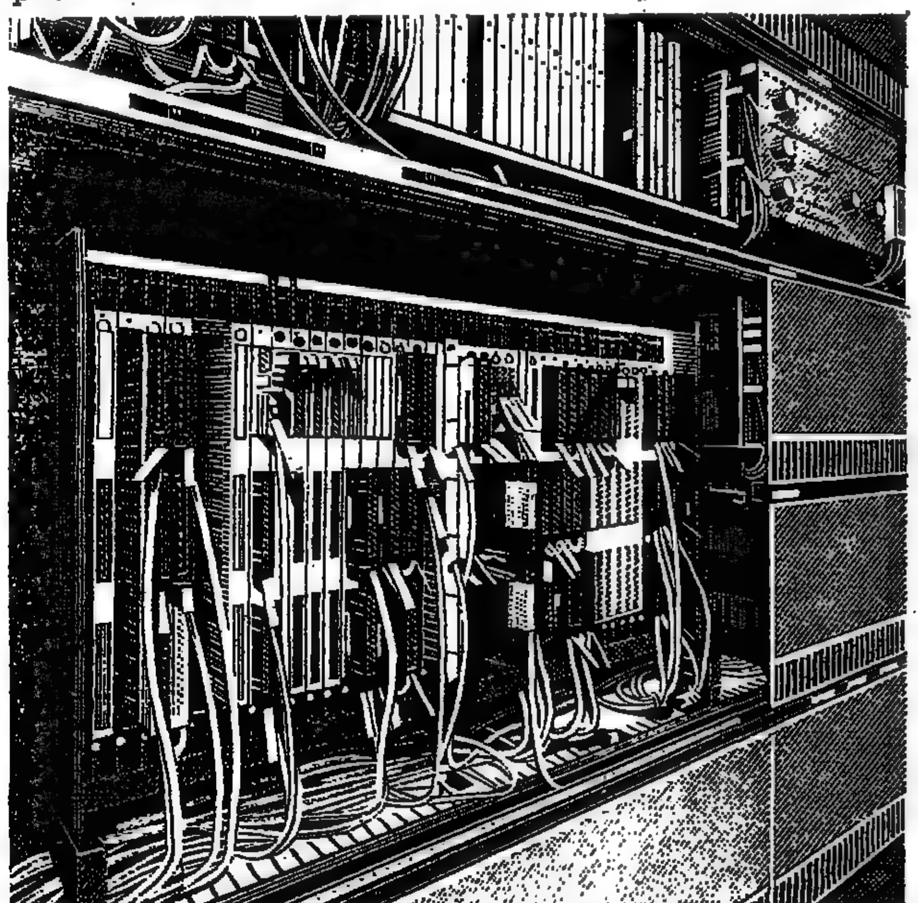
Here are 20 considered opinions.

Argentina
One digital exchange, serving 7000 subscribers, was ordered July 1979. Cut over 1981.

Australia
A system choice for the modernization and extension of the Australian telephone network. On the 13th September 1977 the Australian Government announced that L M Ericsson would be awarded the contract. A first exchange with a capacity of 4000 lines has been ordered. Future deliveries to be produced locally. About 1.5 million lines will be installed during the 80's.

Bahrain
A digital transit exchange with a capacity of 6000 lines was ordered in February 1979. Cut over in 1981.

Brazil
In 1976 Telebras issued a tender concerning a future analogue switching system. In February 1979 AXE was one of two systems chosen by Telebras for the future development of the telephone network in Brazil. Local production.



A special computer (the APZ 210) and a new high-level programming language were designed to meet the requirements of the AXE software package. As a result of this unorthodox approach, AXE software meets the needs of telephony staff, rather than computer specialists.

Colombia
After keen competition in an international tender 10 AXE digital exchanges (9 local and 1 transit) were ordered in January 1979. Somewhat later another local exchange was added. 100,000 subscribers and 7,168 trunks will be served. First exchange to be cut over in 1980.

Denmark
First ordered AXE October 1977. In total to date, three digital transit exchanges for 24,600 trunks and one digital exchange for 10,000 mobile subscribers on order. First exchange to be cut over in 1980.

Finland
First AXE exchange ordered in March 1975. In service: one local exchange for 4000 subscribers and one transit exchange for 480 trunks. 19,000 lines on order for extensions. The local exchange was cut over in September 1977 and the transit exchange in April 1978.

France
On the 13th of May 1976, after an international tender for analogue exchanges, the French PTT announced that AXE had been selected as one of two systems. The first exchange, with an initial capacity of 12,900 lines, was handed over on the 28th June 1979. On order: additional 40 local exchanges serving 375,600 subscribers. Local production.

Italy
The first AXE exchange with a capacity of 960 lines was handed over in December 1978. On order: 3 digital transit exchanges with a total multiple capacity of 11,040 inlets.

Kuwait
Three digital exchanges for 30,000 subscribers were ordered in June 1977 after an international tender. Another tender resulted in an order for an additional 40,000 subscribers. Recently, extension for 40,000 subscribers have been ordered which brings the total up to 110,000 subscribers.

Madagascar
One local exchange, serving 20,000 subscribers, was ordered in 1978.

Mexico
Contract signed March 1979. On order: digital AXE equipment for 25,500 subscribers. Cut over 1980.

Netherlands
International tender concerning a system choice. Late 1977 it was announced that PTT had chosen AXE.

To date, orders have been placed for 7 local exchanges with a capacity of 18,944 subscribers. Originally the decision was for analogue equipment but has recently been changed to digital. First exchange will be cut over 1980. Three districts in the Netherlands, Rotterdam, Breda and Goes will be served by AXE.

Norway
First order in September 1978: 2 digital exchanges for mobile subscribers with a total capacity of 25,000 lines. The exchange in Oslo will start operation in 1981 and the exchange in Bergen in 1982.

Panama
First AXE ordered in February 1978. On order: three digital local exchanges with a total capacity of 10,000 lines. First exchange will be cut over in 1980.

Overall long-term economy was the main objective for the designers of AXE. The language designed by Ericsson for man-machine communication is a good example. It has proved so effective that it is now accepted as an international standard.

Saudi Arabia
A tender was issued in 1977 regarding the largest single contract in the history of telecommunications: an SPC system choice for the extension of the Saudi Arabia network. On the 25th of January 1978 a consortium consisting of L M Ericsson, Philips and Bell Canada was awarded the contract.

In addition to upgrading of existing Crossbar exchanges to Stored Program Control, L M Ericsson will deliver 21 AXE digital exchanges for 173,000 subscribers and 52,800 trunks.

The first five AXE exchanges were cut over right on schedule on 13th of December 1978. 6 months later 5 local exchanges (68,000 lines) and 7 transit exchanges (multi. cap. 33,120) were in service. Additional equipment for 105,000 subscribers and 19,680 trunks is on order.

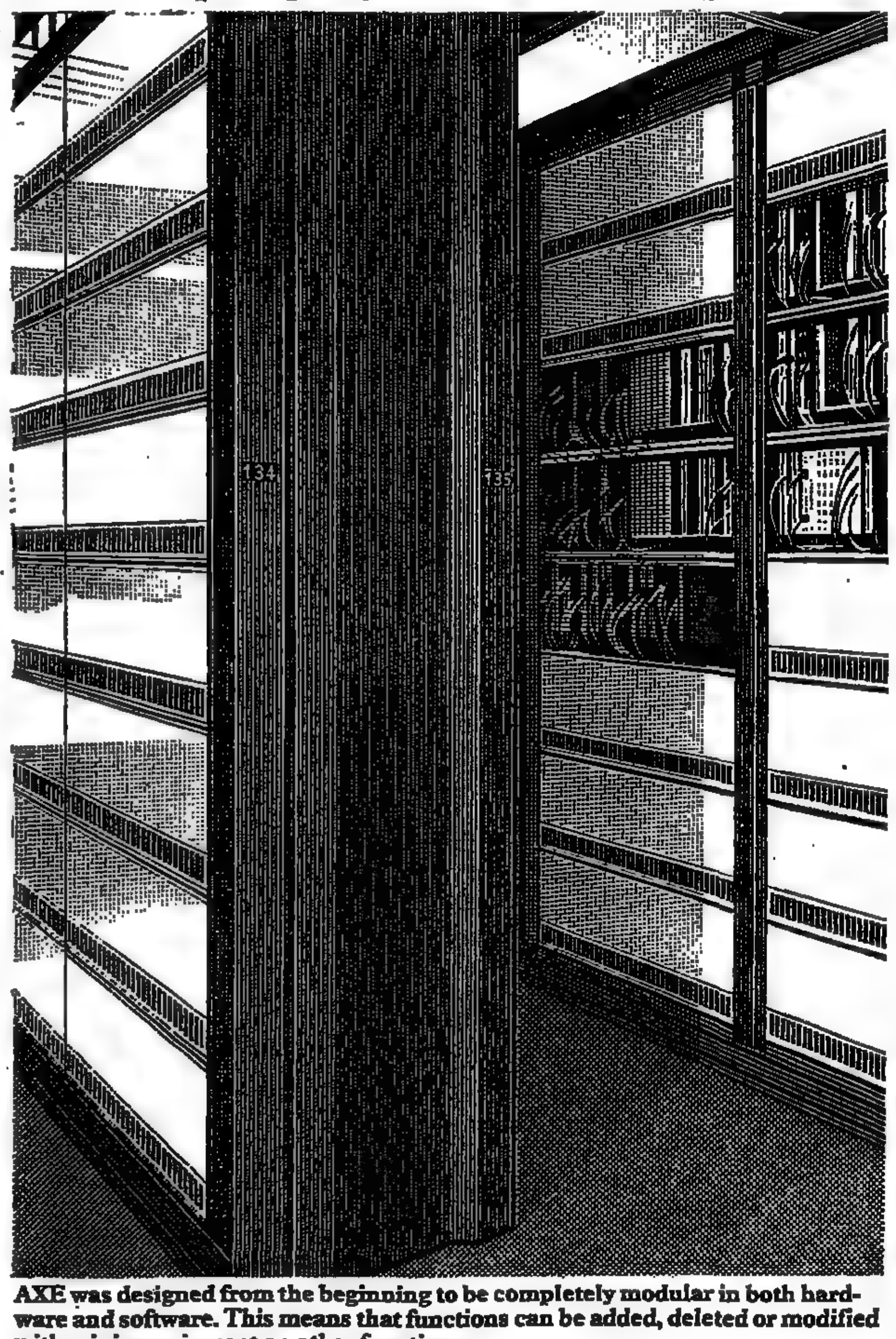
Spain
The first AXE was ordered in December 1977. 3 digital local exchanges for 30,000 subscribers are on order.

The first exchange will be handed over in 1980.

Sweden
The first exchange was cut over on the 1st of March 1977. On order: 10 digital local exchanges for 240,000 subscribers and 2 digital exchanges for mobile subscribers.

Venezuela
One local AXE exchange serving 5000 subscribers was ordered in May 1978. This exchange will be cut over in 1979.

Yugoslavia
First AXE ordered in January 1979. On order: 4 local exchanges for 30,000 subscribers and 1 transit exchange with a multiple capacity of 4320 inlets. Local production.



AXE was designed from the beginning to be completely modular in both hardware and software. This means that functions can be added, deleted or modified with minimum impact on other functions.

Today, the world's telephone administrations are faced with the need to make a rapid transition from analogue to digital telephony. The key investment decision is the choice of the telephone exchange system, since the exchange, once installed, has an economic life of many years. The exchange contains the intelligence of the network, and defines the possibilities for flexible long term development.

The Ericsson AXE digital switching system is considered exceptional in its ability to provide low long-term operating costs and outstanding versatility. By August 1979, just 30 months after its introduction, it has been chosen by 20 administrations.

Success like this is vital to any digital switching system. It means that AXE will be continuously enriched and developed, making it even more attractive to telephone administrations all over the world.

These facts contribute to making AXE a sound long-term investment.

The Ericsson Group

Telefonaktiebolaget
L M Ericsson,
S-126 25 Stockholm,
Sweden.

Partners in telecommunications progress worldwide.

The remainder of the survey is devoted to profiles of some of the leading companies in the field—from Japan, North America and Europe. The articles examine the companies' fortunes over recent years and outline the projects they are working on in this intensely competitive field. This section has been written by John Lloyd, Max Wilkinson and Elaine Williams.

AT & T

Change of philosophy for American giant

THE AMERICAN Telephone and Telegraph Company—AT&T, or Ma Bell to most Americans—can be described at length in superlatives only. One of the world's biggest companies, with a profit last year ($5.3bn) bigger than most companies' turnover, sales ($18bn last year) much more than most countries' GDP, nearly 1m employees, with a construction programme last year financed to the tune of $13.7bn: these main statistics are enough to show that *AT&T is enormous, dominating the American telecommunications manufacturing and more especially service scenes and thus an important element* in the world picture, as well.

The giant, however, has its problems, and in the past year, as its chairman for eight years John deButts retired to make way for Charles L. Brown, the company faces a number of battles to keep its massive bulk straddling across every area of U.S. communications. Some of these battles appear already to have been won, after a period in which it seemed they could go either way: but the war is not over, and it is clear that Bell will at the end—if there ever is a clear end—be a little less powerful than it was at its beginning.

On its operating side, Bell—which serves 85 per cent of all Americans—has changed its *philosophy as it ploughs into its* second century of existence. "If universality of service was the hallmark of our first 100 *years," a company statement* issued last year read, "diversity of service will be the thrust of our second century. Today's technology provides the capability to supply diverse services. Certainly the needs and expectations of both business and residence customers vary widely." In order to accommodate these perceived changes, the company has reorganised its operating *and market activities into three* major areas—business, residence and network, each with a senior vice-president in charge. This, *says the company, "will enable* us to perform more effectively in the competitive arena in which we now operate."

The slight note of regret that may be detected in that last statement is perhaps due to the residual reluctance felt by many in the company over abandoning its role as the country's unquestioned provider of the telephone service—a private enterprise post office without the post—and taking up the posture of competing with smaller, but aggressive, competitors (not much smaller—IBM and ITT are two of the major challengers). Reluctance or not, most of Mr. deButts' reign at the top of the monster corporation was dedicated to preparing it for the change from service- to competition-oriented company, a strategy which it falls to Brown to implement fully.

Bell's regulated status, granting it monopolies over service of a kind similar to that given to most European PTTs, was negotiated by the company's first chairman, Mr. Theodore Vail, 70 years ago. Mr. Vail not only welcomed the *monopoly, he made it an* efficient one. Mr. deButts, who agreed that monopoly was a good thing, nevertheless saw *that the* company could not retain it. He thus set in train what has been described as "the biggest corporate reorganisation in history." That programme will mean that over a third of the Bell system's 985,000-strong workforce will change their jobs in some way (even if only its title); that Bell will move into computing as a matter of necessity, since switches and terminals are now integrally linked to computers; that the workforce ceases to regard its job as purely as a service, but rather as a sales pitch in a marketplace.

Belief

In its anxiety to improve its marketing, a skill with which it had not previously bothered, *Bell first went into the market*place itself, hiring salesmen from IBM, Proctor and Gamble and Colgate-Palmolive, in the obvious *belief* that those who could sell soap could sell anything. The team is headed by Mr. Archibald McGill, a former *IBM marketing vice president,* who has developed a system approach to marketing somewhat similar to that practised *by his former employer:* that is, rather than sell telephones to customers, Bell now moves in to assess communications needs, then suggests a package. Symptomatic of the change was the scrapping of the old Bell slogan, "We hear you" in *favour of the more persuasive* "the system is the solution."

This shift has meant that Western Electric, the company's manufacturing subsidiary, has had to change from simple mass production of standard products to new ranges of styled phones, terminals, PABXs and the like. It is a hard task, akin to that faced by a battlecruiser fighting off attacks from aircraft, *submarines and smaller* surface craft all at the same time: for while few companies can match Bell's range, many can *beat it in depth in a particular* market segment.

Most people in and around the industry agree, however, that the major battle will be between AT&T and IBM, the computer manufacturer which commands 60 per cent of the world market. While smaller than Bell, with exactly half its sales and profit, and less than half its employees last year, IBM is nevertheless more productive than Bell, more experienced in marketing and arguably better at innovation. The competition will come as both computer makers and telephone maker/operators increasingly find themselves marketing similar products—Bell's Teletype subsidiary, for example, markets computer terminals, increasingly successfully (after years of languishing). Mr. John LeGates, president of the Centre for Information Policy Research, was quoted recently (Business Week, November 6, 1978) as saying that "what's really going on is a war between two different kinds of industries for a brand new market," while the vice-president in charge of Teletype said in the same issue that IBM was "the biggest competition for the entire Bell system. We're on a collision course."

Other craft are bobbing along in their swell, too, and the collision could well be a multi*ple one. ITT, no pygmy,* recently received FCC permission to operate a long-distance network linking 11 U.S. cities *while* two much smaller companies, MCI Communications and Southern Pacific Communications, have also received per*mission to run services.* As the microwave and, more important, satellite services come increasingly into service, Bell could find it *hard to justify a* monopoly. IBM itself has its SBS subsidiary poised to offer voice and data links from next year and could attract a large volume of business.

The story of the contemporary AT&T, then, is inevitably the story of contemporary U.S. telecommunications. That, as *we have seen is changing:* so is Bell, partly because it must, partly because it has anticipated the market signals. By the mid-1980s, it should be clearer what these changes have brought in their train—better service or worse?

J. L.

GTE

Number 2 trying harder

GENERAL TELEPHONE and Electronics is number two and is trying harder. As the long-way second American telephone and telegraph company in the U.S. market, both as operators and as manufacturers, GTE suffers from time to time from *something of an inferiority* complex. Then it remembers it is, after all, very large compared to most telecommunications and electronics companies who are not AT and T, and perks up. But it still tries harder, as indeed it has to: its fortunes, now apparently on the mend, have been mixed in recent years.

The company serves around 8 per cent of American telephone subscribers (Bell serves 85 per cent), which, as its chief scientist Dr. Lee Davenport likes to remind UK guests, makes it as large a telephone operating company as the British Post Office. It covers a wide geographical area — much wider than 8 per cent of the country — since many of its operating subsidiaries cover large rural tracts of Illinois, Kentucky, Michigan, Ohio, Pennsylvania and elsewhere. In all, it has 15 large and three small U.S. operating companies, together with three more abroad — in Quebec and British Columbia in Canada and in the Dominican Republic.

Its manufacturing arm, Automatic Electric — bearing the same relation to the company as Western Electric does to Bell — has plants throughout the U.S., and markets not only to GTE, but to other telephone companies — including Bell — as well. The company has some 92 manufacturing plants (not all for telecommunications) in 24 states, and more than 50 throughout the world. Overseas, it has manufacturing plants within its communications products group in Argentina, Belgium, Brazil, Canada (19 plants in all), Italy, Mexico, Spain and West Germany. Its most significant telecommunications presence in Europe is in Italy, where its subsidiary GTE Telecomunicazioni (with three plants) is one of the three large multinational subsidiaries (with ITT and Ericsson) and has around 14 per cent of the Italian market.

Although we are not concerned with it here, it should be noted that GTE, unlike Bell, is a general electronics as well as a telephone company, marketing consumer products (TVs are the main products), lighting equipment and specialist metals. The company has been hit hard by the sag in the U.S. TV market in the mid-1970s, coupled with Japanese and other Far Eastern competition: it has now recovered.

In the overseas markets, the company has been concerned with a contract in Iran, worth more than $500m, which is described elsewhere in the Survey. At the time of writing, considerable doubt still surrounds the progress of the contract, suspended during the revolution.

The company is also part of the U.S. consortium bidding for the Egyptian contract and clearly sees its place in the world as much more export-orientated than in the past. Mr. Robert Gressens, made president of the company's communications group in 1976 and charged with arresting the *fall in profits, organised his* division on an international basis and regards the world as his oyster, if one increasingly difficult to crack.

In an interview earlier this year, Mr. Gressens said that he hoped that the company would be able to attack the European market more forcefully than in the past: "It is a difficult market for us to address, but we hope that in the future equipment will be sold more freely between states and we would be able to serve the whole European market."

Attitudes

In the less advanced markets —such as Egypt—Mr. Gressens has been concerned to change U.S. *Government attitudes* on forward financing to achieve recognition that U.S. companies are now competing with *countries as well as other companies.*

At home, the company has been much concerned with the regulatory wind sweeping through the communications power corridors, and has taken up a position somewhat akin to Bell's—one of cautious adaptation to the new mood, with a strong rearguard action to attempt to prevent what it feels to be an excessively competitive *spirit, which might be damaging* to the public it serves.

In a largely critical review of proposed new legislation on communications, GTE's chairman, Mr. Theodore Brophy, last year told the Senate subcommittee on communications that the *Communications Bill* then being considered was too vague in its wording and strayed from the concept of public service, which had been central to the 1934 Communications Act. "The most significant and pervasive failing of the Bill is its failure to set forth for the proposed Communications Regulatory Commission (which would replace the Federal Communications Commission) both adequate substantive direction and specific procedures to assure that the interests of the public as a whole are represented . . . . at least the FCC had to act within the statutory standard of 'public interest, convenience and necessity' . . . . *here there is no Congres*sional standard having express or judicially construed meaning . . . . without these guides, how could any reviewing court find any Congressional limits on CRC power? How can industry develop its plans with any assurance as to the future?"

The concern manifest here is a reflection of the position in which GTE and Bell find themselves: both comfortable in the role of providers of a public service, with their monopolies broadly preserved in the areas in which they operate: both believing that their way is the most efficient and cost effective: both meeting a strong barrage of scepticism, coupled with strong pressure from other large companies — ITT, RCA, even IBM — to move into their areas. Hence the two-pronged defence: gearing up for competition, and lobbying hard in Washington against the de-regulators.

On the first of these, the company has innovated in the past year. It has opened business communication centres as an office-orientated counterpart to their domestic "phone marts," as places where businessmen can look round the company's selection of business systems. At the same time, in this area it finds itself up against political problems once more, this *time regulations which stop it* competing, as it would see it, freely.

The problem is the familiar one of the convergence of computers and telecommunications. Under FCC rules, companies marketing data processing equipment cannot market a system whose computer handles, for example, billing procedures as well as telecommunications. The company thus takes a keen interest in the progress of Computer Enquiry II now being conducted by the FCC, and hopes its recommendations will modify existing legislation to allow it to develop more adventurous equipment. If the FCC does decide to take this line, GTE and companies will, of course, meet the computer companies coming into the market from the other end — but it appears reconciled to that as the price of competitivity.

J. L.

THOMSON-CSF/CIT-ALCATEL

Crucial tests still to come

ONE OF THE outstanding examples of the success of French Government intervention into industrial affairs is the development of its telecommunications companies over the past three years.

And yet perhaps it is premature to talk of success because, in spite of the rapid and decisive reorganisation which took place in 1976, the development of new products which resulted and the marketing effort which is now being mounted, the crucial test for French ambition is yet to come. And so are some of the major stresses to which the industry will be subjected.

The test, of course, is whether the industry can achieve its long-term ambition of increasing exports to perhaps 30 per cent of production on the basis of its new computer-controlled products. And the major stresses will have to be faced in the mid-1980s if and when the current boom of domestic orders starts to peter out.

Indeed, a period of uncertainty will start as the current five-year plan runs out in 1980. This plan, announced in 1976, called for FFr104.4bn to be spent. By 1980, 8m new telephone lines were to be installed in addition to the 7m in existence in 1975. By 1980, it was planned, telephones should be available to two-thirds of the population instead of to a quarter.

On the back of this heavy ordering programme, which has reached more than 2m lines a year, the French Government was able to effect a re-organisation of the manufacturing industry with a breathtaking display of authority. It obliged International Telephone and Telegraph and L. M. Ericsson of Sweden to sell out their main French subsidiaries to Thomson-CSF, subsidiary of Thomson-Brandt.

Thomson, which had no previous experience in the public telephone switching market, had the formidable task of welding these former rivals together and of creating from the technology and the engineers which it took over a new all-French, all-digital system of exchanges. This new conglomerate was to counterbalance the established French telecommunications equipment manufacturer, CIT-Alcatel, subsidiary of the giant Compagnie Général d'Electricité.

Thomson CSF may have needed some pushing from the Government to take on this commitment, but it also had strong motives of its own. As Mr. Edouard Guigonis, Director of Thomson, said: "We came to the conclusion that for a company of our size, the future depended upon being in the telephone business," though he added that the decision was taken "with much reflection."

Closer

On the technological front, Thomson was influenced by the prospect that telephone switching technology was moving much closer to its own main activities in electronics. From the business point of view, there was the obvious incentive of picking a guaranteed share of orders from a very large public expenditure plan, and from a company point of view, Thomson wanted to reduce its dependence on exports which then accounted for 60 per cent of its turnover.

As a result of the forced marriage, Thomson has taken over manufacture of the Metaconta computer-controlled system which was being made by ITT's subsidiary, Le Materiel Téléphonique, as well as the AXE exchanges from Ericsson. In addition, it has now developed its own MT-20 transit exchange and the MT25 subscriber exchange, both of which are fully digital computer controlled systems. Eventually, the MT system will supersede the other two exchanges which are still produced under licence.

In addition to the problem of integrating two different companies and developing a new advanced system, Thomson has taken on the familiar problem of having to run down production of the old electro-mechanical exchanges. In spite of the substantial domestic ordering programme of which Thomson has a 42 per cent share, a large slice of exports will also be necessary to help amortise the heavy development costs and the capital investment needed to make the new types of equipment.

Earlier this year, Thomson scored an important success with a contract for the setting up of a factory to produce 1m lines a year of MT exchanges in the Soviet Union. In spite of this, and some other successes, Thomson is still a long way from achieving its ambition of selling 30 per cent of its production of exchange equipment in the export markets.

To achieve export sales it will have to compete not only against the foreign telecommunications companies, but to some extent against its main domestic rival, CIT-Alcatel. Both companies are receiving very substantial support in export markets from the Government and from the telephone authority. Ministerial support has extended to quite obvious salesmanship, as happened in Egypt earlier this year, when CIT-Alcatel staged a ceremony in Alexandria to celebrate the establishment of one of its E10 all-digital exchanges.

The telephone authority was also involved in this exercise, both in giving support and advice to the Egyptians and in waiving its right to the exchange, which was flown out at short notice as a demonstration model to impress the Egyptians.

The expensive combined political and marketing effort is part of an attempt by CIT-Alcatel to gain a foothold in Egypt so that it can obtain some of the billions of dollars of orders which would be needed to modernise the Egyptian system.

Exactly how the French Government would allocate its support were the two companies to be in head-on clash for a major foreign order is not yet clear. Most probably discreet methods would be found to avoid the problem.

Certainly CIT-Alcatel is the more experienced of the two companies in the development of digital telephony. The first prototype of its E10 system was produced as long ago as 1970 and production on an industrial scale started in 1973-74. By 1974, the company had started to manufacture its E10A exchange with a capacity of 15,000 subscribers per exchange. This was followed by the E10B with double the capacity. By the end of 1978, it could boast that 722,000 lines of its E10 systems were in service, of which 600,000 were in France and 13 exchanges were abroad.

Indeed, CIT-Alcatel estimates that, by the end of this year, out of a total of 2m lines of fully digital (time division multiplex) *local* exchanges installed in the world, CIT-Alcatel will have accounted for 1.2m lines.

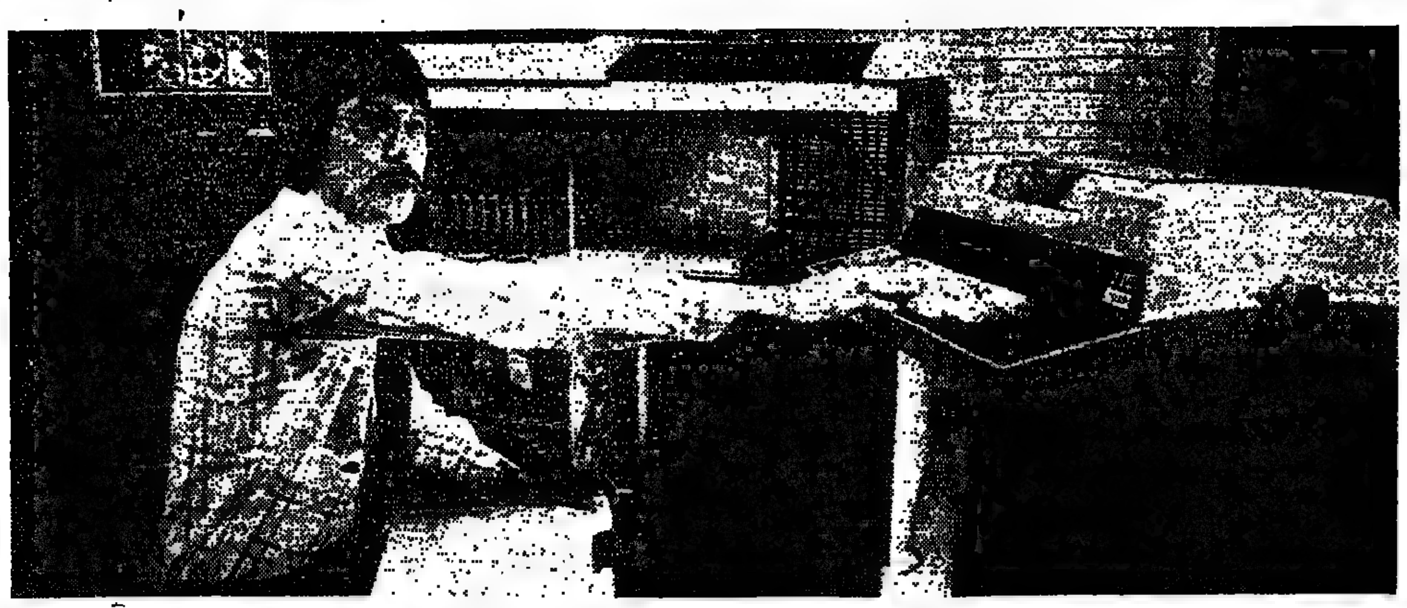
Although that sounds, and is, impressive, it is of course a rather selective statistic, and probably would be queried by some competitors. L. M. Ericsson, of Sweden, for example, would say that the distinction between space division and time division (analogue or digital) switching is not of great significance in its system, since it is modular in nature and can be fitted with either.

Lead

However, it is clear that CIT-Alcatel, which boasts exports to 12 countries, has established a very significant lead over at least some of its European competitors.

The question remains whether CIT-Alcatel wil find it to have been an advantage to have been early in the field, or whether those coming behind will overtake the E10 with different types of system based on the very rapid advance of component technology. Clearly, the systems of the 1980s will be smaller than the current E10. But of course CIT-Alcatel will also be aiming to harness new technologies to improve its product.

M. W.



An ITT 6100ADX message switching system undergoing final tests. The system is used to send and receive typed information between locations any distance apart.

ITT

Concern with identity

MOST OF the U.S. International Telephone and Telegraph Corporation's business has lain outside its native country ever since it took over the international telecommunications business of another U.S. company Western Electric more than 50 years ago.

Today, despite interests outside the telecommunications industry such as the ownership of the Sheraton hotels, ITT's telecommunications and electronics business remains the company's single largest business—with sales in 1978 of more than £2bn.

Telecommunications accounts for about 40 per cent of the company's activities. In 1977 income from this sector rose 17 per cent in 1977 in spite of monetary restraints on some European customers, rising research and development costs, and restructuring of its factories to incorporate new technology.

ITT has a very close relationship with its subsidiaries around the world but each subsidiary in the telecommunications field is given considerable autonomy in its activity, and each is inherently national in character.

These subsidiaries include well-established companies such as Standard Electrik Lorenz in West Germany, founded in the 19th century, Standard Telephone and Cables in Britain, Standard Radio and Telefon in Sweden and Standard Eléctrica in Spain.

STC in the UK has an attitude which is typical of other ITT companies. It wants to be considered first and foremost a British company, especially since its major customer in the UK is the Post Office.

To reassure the two other major contractors to the Post Office, GEC and Plessey, with whom it is developing System X (the telecommunications equipment which will replace the country's outmoded electro-mechanical systems and, it is hoped, win export markets), ITT decided to sell off a minority 15 per cent of STC to be taken up by British shareholders.

Concern

Plessey and GEC had often expressed concern that a foreign-owned company should be involved so closely in the Post Office's plans.

At the time of the shares sale, in June this year, ITT stated: "ITT believes that, where practicable, it is desirable for its major telecommunications subsidiaries outside the U.S. serving predominantly local markets to have a degree of local ownership."

It already had adopted the same policy in other countries before selling its share in STC. However, when the French Government carried out its reorganisation — or rationalisation—of its telecommunications equipment industry one French ITT subsidiary, LMT (Le Materiel Telephonique) was taken over by the French-owned Thomson group after a long struggle by ITT to retain control.

So ITT's concern about the national identity of its foreign subsidiaries stems from Government's growing desire to have a measure of control over the activities of multi-national companies.

In recent years ITT has been trying to lessen its dependence on its overseas subsidiaries. In the telecommunications field it gained an important foothold in the U.S. home market when, in January, the Federal Communications Commission gave the go-ahead for the company to set up a long-distance communications network linking business customers in 11 major cities including New York, Boston, Los Angeles and Atlanta.

This challenges the supremacy of American Telephone and Telegraph which runs the giant Bell telephone system in the U.S.

ITT is one of the leaders in digital telecommunications systems and plans that, eventually, all its generations of switching equipment will evolve into Network 2000. This is ITT's concept of how all types of information such as speech, computer data, electronic funds transfer, electronic mail, and medical records will be transmitted from one place to another.

Towards the day when Network 2000 becomes reality it has developed System 12, which is a series of telephone switching systems based on digital techniques. The company claims they are designed on its predictions of future needs where access to vasts amounts of information will be essential for human development.

It is becoming a race between telecommunications companies such as Philips in the Netherlands, LM Ericsson in Sweden, Siemens in West Germany and ITT to produce and successfully market totally electronic systems.

During 1979, ITT North Electric in the U.S. had plans to install digital telephone switching systems in more than 50 U.S. cities, eventually averaging two a week by the end of the year. Between 1980 and 1982, System 12 exchanges will also be installed in Belgium, Italy, Denmark, and Spain.

ITT still looks set for new records in earnings this year despite pessimism about some of its overseas operations. Operating earnings so far this year are 11 per cent higher than 1978 and ITT is well pleased with this progress under difficult conditions.

E. W

SIEMENS

Strategic advantages

IF, AS MANY people believe, a shakeout is inevitable among the European telecommunications companies, Siemens of Germany *must be* seeded as one of the likely survivors.

This mighty corporation is now the sixth largest outside the U.S., behind Philips of Holland. Its sales in 1978 totalled $13.9bn, of which about a fifth came from its telecommunications division. Telecommunications is its largest activity besides power engineering and power station equipment (made by its subsidiary Kraftwerk Union).

Besides its long tradition stretching back to 1847, Siemens enjoys several important strategic advantages in the electronics and communication industries, which makes it an important contender in the struggle for market leadership which lies ahead.

The first and most obvious advantage is that it is German. It therefore enjoys the largest and in some ways the most sophisticated home market in Europe, and the tide of national protectionism, which is so strong in telecommunications, runs in its favour rather than *being an awkward cross-*current, as is the case for ITT (International Telephone and Telegraph).

Orders by the German Bundespost for switching equipment have been increasing from 1.5m lines in 1976 to 1.8m this year after the terrible slump in 1974 when orders fell to only 500,000 lines.

In addition to a reasonably healthy domestic market, where Siemens is easily the largest supplier, the company also has a substantial presence abroad, with a total of 40m line units of its EMD electro-mechanical exchanges in operation or on order. Siemens also has a wide spread of telephone equipment manufacturing plants in Finland, Bulgaria, Spain, South Africa, South America, the U.S. Pakistan, Australasia and elsewhere.

It therefore has a strong background on which it hopes to build an export performance for its latest range of fully-computerised exchanges, the EWS-D.

But in addition to financial muscle, tradition and a worldwide presence Siemens possesses one other advantage over most of its European rivals and even *of some of its competitors in* the U.S. and Japan. That is the degree of its integration into a wide variety of electronic technologies which are rapidly becoming more and more similar.

This so-called "convergence" of technologies is perhaps most obvious in the way in which computer techniques have become integrated into the design of telephone exchanges, while communications, conversely, have become increasingly important in the design of computer systems.

However, other types of convergence are *now becoming* important. On the one hand, the manufacture of office equipment and peripherals such as printers, is becoming integrated with the computer and to some extent with the telecommunications industry; and on the other hand, micro-electronic devices are becoming so complex that individual components can now comprise important subsystems in a telephone exchange or a computer.

Siemens traditionally has been strong in the manufacture of printers and other electro-mechanical peripherals. It has maintained its leading position and is a substantial exporter. At the same time, the company has doggedly kept its foothold in the computer and semi-conductor industries in spite of very substantial losses over the years from both operations.

Now, the company believes it is beginning to reap the rewards of its patience with both divisions. But more important, it is extremely well poised to take advantage of the expected further convergence of the different technologies.

This is likely to happen in, broadly, three ways. They are: first, complete systems, parti*cularly in the private telecom*munications market will incorporate computers, complex semi-conductor components and communications techniques.

Second, the cross-fertilisation of engineering techniques between different disciplines is expected to continue to be important. And, *third, the pro*ducts of different divisions will tend to become similar as components become systems, systems are shrunk into components and computers become omni-present.

Some of these trends will be slow, but then one of Siemens's great strengths has been that it will take a very *long-term view*. Its strategy appears to be to move forward with deliberation and force even if speed must be sacrificed sometimes.

Fettered

Perhaps Siemens's greatest handicap in developing new products for the world telecommunications market has been that it has been fettered to the requirements of the German system, and more particularly to the German Bundespost. The Bundespost's detailed involvement in specification and design has probably been even more restrictive over the years than that of the British Post Office over its own captive manufacturers.

In both countries the insistence on extremely high-quality for the domestic market—often with a "belt and braces" approach to design—has often been incompatible with the approach to export markets where the relationship between *costs and* quality need to be more flexible.

These restrictions and the need to work in co-operation with Standard Elektrik Lorenz (ITT's German subsidiary) have contributed to the relative slowness of the development of a German contender in the international race to produce fully computerised digital exchanges.

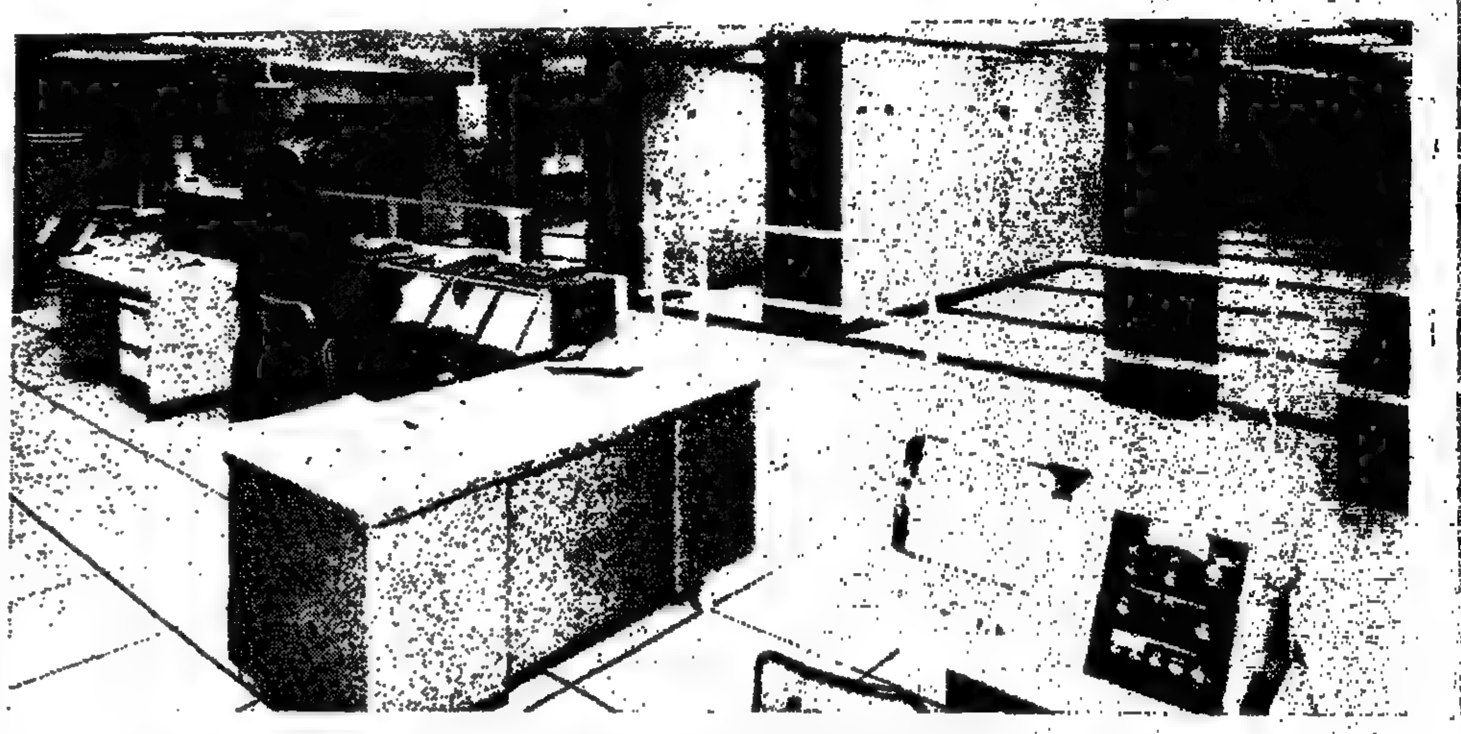
Work on computer-controlled exchange systems started in Germany as long ago as 1967 and has proceeded in two parallel paths. On the one hand there was the development of the EWS-O and EWS-F (local and trunk) systems in which computers were used to control miniature electro-mechanical switches. At the same time, *development work was* proceeding on a fully digital system in which the electro-mechanical switches were replaced by miniature electronic circuits.

However, as component technology advanced, and the impact of semi-conductors including the micro-processor became more obvious, Siemens realised that its original concept of computer control was unsuited to the newer age of fully digital systems. With some courage, therefore, it decided in 1977 to start afresh with a new design study for a fully digital system.

The fruits of that study are now beginning to emerge from the laboratories, and an exhaustive period of testing. The fully digital exchange systems *will be in production next year*, and will replace the EWS analogue trunk exchanges. Then a fully digital local exchange will also be brought into production.

After a period of relative secrecy and a great deal of anxiety, Siemens now says it has ironed out the main problems of the system and is satisfied that it is stabilised. During the next 12 to 18 months therefore, EWS-D, on which a large part of the company's hopes for the future are based, will *be evaluated by the rest of the* world.

M. W.



A Siemens EDS electronic computer-controlled switching system for digital communications.

L. M. ERICSSON

Thriving on adversity

THERE IS a theory among executives of L. M. Ericsson, the Swedish-based telecommunications company, that having a relatively small home market has been a great advantage.

This idea might appear a little odd to rivals in France, Germany or the UK, where a solid background of domestic orders should provide, in theory at least, the profitable base for new development and for search*ing out new export business.*

A glance at the comparison of the performance of L. M. Ericsson and of its competitors, particularly in the UK, shows that companies—and perhaps human nature—often defy that logic. Ericsson, particularly, appears to have thrived on adversity. *Its* international business and undoubted technological success has been built, not on a profitable home market, but on the imperatives of survival.

Its strategy of penetrating world markets by a continuous and aggressive development of technology has made it one of the largest telecommunications equipment manufacturers, with sales, which this year are estimated to reach $2bn and forecast a *pre-tax profit of about* $170m.

Of total sales only about 16 per cent come from Sweden. Just over a third come from the rest of Europe and just under a third from Latin America.

About half the company is devoted to the manufacture of public telephone exchanges, with a further 13 per cent in the private telephone exchange and telephone instrument business. In addition to cable and trans*mission* equipment, which together account for about a fifth of output, the group also makes a range of military and other electronic products.

Ericsson is therefore much more dependent on sales of public switching equipment than most of its European competi*tors*, which are *almost* all part of large groupings with diversified interests in electronics and other fields. Perhaps the comparative narrowness of Ericsson's business, as well as its restless drive for overseas markets, accounts for its success.

Ericsson says that, in 1978, it *installed 3.66m lines of local* exchanges including those installed by licensees. In addition, it installed 1.5m equivalent lines of transit exchange. This puts Ericsson among the very largest manufacturers. In the U.S. Western Electric produced about 6m lines, ITT produced about 3m, Siemens of Germany, about 2.2m and General Telephone Electronics about 1.5m.

Ericsson's most important product is the now famous AXE exchange system which was the company's second attempt at developing a computer-*controlled network*. The AXE enabled it to gain two major contracts in 1977 and 1978.

The first, announced in September 1977, was a £320m order from the Australian PTT for the development of computer-controlled network. This was followed by a spectacular £1.57bn contract which Ericsson won in a joint bid with Dutch Philips in Saudi Arabia.

*Although the Australian con*tract was smaller, it was of at least equal significance, for it followed the first detailed evaluation of AXE against competing systems by a large and expert telephone administration. Ericsson, certainly took its success in winning the con*tract as a vindication of its* system which had a number of pioneering features.

Advantage

The principal advantage which Ericsson claimed for AXE was its modular design. This *modularity was imposed on the* system after an earlier and problem-fraught design which led to what Mr. Bjoern Svedberg, the president, called "spaghetti programming."

Spaghetti programming is an unpleasant phenomenon known to the designers of almost all the earlier computer-controlled exchange systems. It results from the fact that programmes controlling one function can become inextricably entangled with *programmes controlling* other functions. An alteration to one programme thus can create changes throughout the system, and the more the engineers pull at the problem *the more tangled it becomes.*

To avoid this, an extremely modular design structure was imposed on the AXE concept consisting of entirely separate functional boxes. These boxes could contain either hardware (electronics) or software (computer programmes), but they were allowed to relate to each other only in strictly specified ways.

For this reason, Ericsson says, it is possible to make radical alterations to some parts of the exchange without altering the basic system. The system is (so *to speak*) interested in how all the function blocks behave but has no interest in their internal working.

This modular approach has proved particularly important in allowing flexibility between analogue and digital switching within the same basic system. *Ericsson says that the AXE* system was originalily conceived as a fully-digital system. But at that time, in the early 1970s, digital switching was not economical, particularly for local exchanges.

An analogue switch was therefore used for those customers *who wanted it. However, the* advantage of componentry and to some extent a change of fashion has now brought fully-digital switching to the fore. Now the great majority of customers have chosen the digital version and several are in service.

In this way Ericsson has been able to move over to a digital switch wtihout the need for a complete redesign which some of its competitors, notably ITT, have had to undertake.

Ericsson, is in fact, entitled to feel a certain amount of glee at the expense of ITT, for both the Australian and the Saudi Arabian contracts were won in the teeth of strong competition from the American conglomerate. And the rivalry between the two companies has a long and highly-charged history.

For almost 30 years, from 1932 until 1960, Ericsson was engaged in a tough and sometimes *bitter fight to prevent ITT from* using its voting majority of Ericsson shares to exert control over the Swedish company.

The ITT shareholding arose out of a complicated series of financial deals in the 1920s involving the Krueger financial empire. When this collapsed in 1932 ITT became entitled to Krueger's majority shareholding in Ericsson.

Then, through a long and weary period of reconstruction and negotiation, Mr. Marcus Wallenberg, Ericsson's chairman for 24 years, succeeded in the dual task of putting Ericsson's *finances on a sound basis* and using legal and other means to keep ITT at a distance. Finally, Ericsson managed to buy out the ITT shareholding.

These financial and political upheavals might not perhaps seem the easiest background for technological progress. However, Ericsson succeeded in the early 1950s in developing a new type of Crossbar exchange to replace the old rotary system. This design enabled the company to *establish itself throughout the* world, and clearly laid the foundations for its later success with electronic switching.

M. W.

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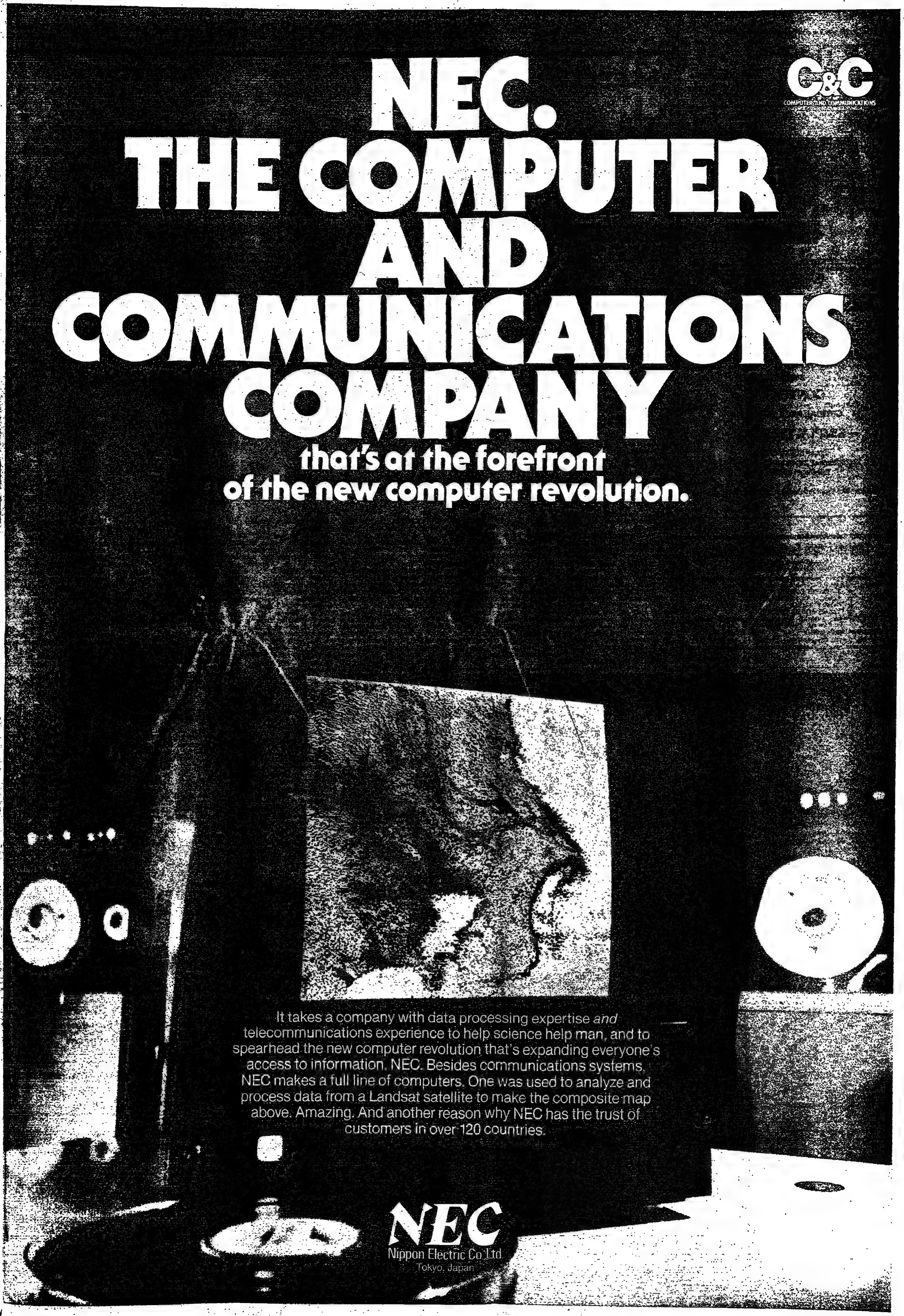


PLESSEY

Hopes pinned on System X

PLESSEY, THE smaller of the two UK companies which dominate the British telecommunications manufacturing scene, has shown mixed fortunes in recent years, though it now appears to be on a rising trend, with sales and profits up last year and first quarter results in the current year also well up. After a period in the doldrums, the company's share price has picked up around 20p in four months.

The company, which is acknowledged to have considerable technical strengths, has nevertheless been thought in the recent past to be suffering from stagnant markets and insufficiently aggressive salesmanship, and there are constant rumours—stoked by some of the company's competitors —of attempted takeover. It must be said that at the moment that prospect seems less likely than it has for some time.

Its electronic systems and microsystems and components divisions have tended to be more profitable than the telecommunications operation—the first of these showed a 27 per cent profit growth last year—while overseas companies, especially the North American subsidiary are buoyant. They now account for 14 per cent of the group's turnover and 32 per cent of pre-tax profits.

A major drain on the company's resources has been the Garrard record turntable subsidiary, which at its worst was recording an annual loss of over £5m. This year's loss is expected to be around £1m: the workforce has been cut from 2,000 to 600.

In telecommunications, the company's major business, there have been large and costly problems, too. The company's factory at Edge Lane in Liverpool, which manufactures the electro-mechanical Strowger equipment for the Post Office, was turning in losses of £800,000 a month last year. After drastic staff cuts—1,000 workers from a total staff of 3,500 were laid off—losses are now down to £400,000 a month, and the company forecast last month that the plant would show a surplus over the second part of the current financial year.

The plant has attracted problems of a quite different sort—allegations of financial irregularity, made by the MP for the area in which it is located, Mr. David Alton. A police report on the plant has been delivered to the Director of Public Prosecutions: meanwhile, the company strongly denies that any of the irregularities involve state funds.

The recovery at Edge Lane is expected to be due to considerably improved terms obtained from the Post Office for the Strowger equipment — a margin of 13 per cent over the next four years. This contrasts with orders which were losing some 23 per cent of the sales value, taken at a time when demand was low and contracts were taken at virtually any price.

However, the company will not secure its future on the basis on electromechanical equipment, now being phased out by the Post Office (and most other PTTs worldwide). It must now be making the major changes every electronics/communications company has to endure in order to stay in the game in the 1980s. How is it doing so far?

First, it has stepped up production of the semi-electronic TXE4 system, largely for the Post Office (though some systems, under the name of Pentex, are exported): TXE4 earned the company £30m last year, nearly double the previous year's output.

Partners

Much more important in the longer term, the company is one of the four partners (with the Post Office, GEC and STC) in the development of System X. The first production orders from the corporation have been received, and production has already started. At the same time, the company has collaborated in the production of the prototype exchange which will be demonstrated at Telecom 79, in Geneva, this month. The success of this venture is obviously much more critical for this company than its other two manufacturing partners: GEC, after all, has sufficient financial strength in other areas to bear failure: while STC, as ITT's UK subsidiary, could be expected to receive help from its parent. Plessey stands alone: and the comment made of System X—that it is UK telecommunications' last chance to break into world markets—applies with poignant force to Plessey.

Success, however, could mean that Plessey recovers its previously important position in the export market—though not as a single company, rather as a partner. It has co-operated in the formation of an international marketing operation to sell System X abroad, and while details have still to be made clear, it is likely that some loss of individual identity will be entailed.

System X does not, of course, exhaust Plessey's effort to stake a claim for itself in the microelectronic future. A major development has been its PDX (private digital exchange), which it claims—matching itself against the best—is more advanced than the equivalent product from IBM. The Plessey exchange encodes all conversations in digital "bleeps" (other systems use analogue or conventional electronic current to mirror speech), and has been successful in UK markets. At the same time, the CDSSI, to be marketed under the name "Monarch," has already been approved by the Post Office and the first production order—worth £14m—has been placed. The CDSSI is also digital.

Early this year, Sir John Clark, Plessey's chairman, announced that the company would enter thte office equipment market; Plessey Telecommunications was renamed Plessey Telecommunications and Office Systems, and now includes a specialist office systems subsidiary. The PDX will be the hub of Plessey's office system, capable both of a communications function and of accounting. The PDX — manufactured under licence from Rolm Corporation of the US—clearly carries much on its back.

Further, the group is relatively strong in the digital telex market, and has supplied equipment for the Post Office's new "packet switching"—the transmission of data messages—market.

In sum, the company can take advantage of the future growth of the communications market—if it shows the same ability to market as it has to develop advanced systems. Competition, however, will be tremendously fierce: and the company must still prove that it can live with it.

J. L.

SIT-SIEMENS

Political battles

IN ITALY, the telephone administration's wish to move towards a system of fully computerised digital exchanges has run into a thicket of political and industrial complications.

Even the fact that the country's largest telecommunications manufacturer, SIT-Siemens, has a German name but is owned by the Italian Government, involves complication. For it raises the question of whether the Italians should buy in new technology from abroad or—for reasons of national pride mixed with industrial politics—continue to trudge the long hard road towards the development of a truly national system.

SIT-Siemens, which was nationalised after the 1939-45 war, supplies about half of Italy's requirement for telephone exchange equipment, which is now running at about 600,000 lines a year. With annual orders of a little over 300,000 lines, SIT-Siemens is relatively small compared with other telecommunications companies in Europe, particularly the multi-nationals.

It is not surprising, therefore, that the development of its new electronic system of exchanges, called Proteo, is considerably behind that of some of its major European competitors. The first Proteo exchanges in service represent, indeed a staging post towards the eventual goal of a fully digital computer-controlled system using Time Division Multiplex (TDM).

Pulses

TDM is the method by which the computer language of digital electronic pulses is used to interleave a large number of separate telephone calls in the same circuit. Each conversation is allocated a time slot in sequence, during which a burst of digital transmission encodes a fraction of the original voice signal. These fractions are then all put together in the correct order to reconstitute the original speech.

However, the first Proteo exchanges used a different system called Pulse Amplitude Modulation (PAM) and were not able to exploit all the advantages of the most modern computer-controlled digital systems.

The company is pressing ahead with the expensive and difficult development of the next generation of equipment which it hopes will be as advanced as that of its international competitors. The first terminal exchanges in the Proteo system went into service in 1977 after a period of development which started in 1970. A transit exchange is under test in Milan and several more terminal exchanges will be put into service during the next three years.

Dr. Georgio Villa, general manager of SIT-Siemens, says it will not be until 1982-83 that the company has available a fully SPC (Stored Program Control or computer-controlled) digital system.

Italian Government officials are privately sceptical as to whether SIT-Siemens will be able to maintain this schedule. Telecommunications companies throughout the world have experienced difficulties and delays in perfecting the very intricate computer programmes (software) needed to control such systems. And there are questions whether SIT-Siemens has the technological muscle to push through its development programme to the tight timetable which is being dictated by increasingly fierce international competition.

For SIT-Siemens, in common with every other telecommunications company, is anxious to obtain a slice of the world's export markets to offset the steep reduction inthe labour force, which the change over to electronic techniques would otherwise make necessary.

Mr. Villa says he would like to achieve exports of 25 per cent of total production by the mid-1980s. However, British, French, German and Swedish manufacturers all have similar ambitions, so that it is unlikely that there will be enough business to satisfy everyone. Speed in developing the new system is therefore extremely important.

This is one ofthe reasons why SIT-Siemens recently concluded an agreement with Telettra, a smaller company controlled by Fiat, which hitherto has made mostly electronic transmission equipment.

As has happened in other countries, the Italian Ministry of Industry has encouraged the link-up, because the development of a computerised exchange system is such a formidable undertaking that the best use must be made of all the available electronic engineering resources, wherever they happen to be situated. Telettra, which has been diversifying from its successful range of transmission equipment into the field of electronic switching, is now expected to develop a joint range along with SIT-Siemens.

However, SIT-Siemens has other possibilities, one of which would be a deal with General Telephone Electronics (GTE) of the U.S. which has an Italian subsidiary and has already developed a range of fully digital switches. These would have to be adapted to the special requirements of the Italian system. There clearly would be an advantage for both companies and for the state controlled Telephone operating company, SIP, in having a common system between the two suppliers. Together SIT-Siemens and GTE control about 65 per cent of the domestic switching market.

Telettra has already held detailed talks with GTE which resulted in a technical co-operation agreement. It remains to be seen how this will relate to the bond betwen Telettra and SIT-Siemens and whether all three companies will eventually produce a common system for Italy.

These questions are given an intriguing twist by another possibility: that SIT-Siemens might go back to its former German parent for a technological licence. The electromechanical exchanges which SIT-Siemens still produces are all made under licence from Siemens of Germany. The possibility of taking out a new licence to produce the new German EWS system of computer-controlled exchange equipment has certainly been discussed.

However, although a foreign licence would certainly be the quickest, and probably the cheapest, way for the Italian company to produce a new system, it would certainly limit and perhaps altogether preclude the possibility of exports. For a company like SIT-Siemens, which employs 18,000 people, of whom 12,000 are in switching, the question of exports is of paramount importance. When all production is of electronic exchanges this labour force will have to be reduced by half or even more unless increased orders can be obtained from abroad.

Threat

The threat to jobs in an industry which currently employs about 60,000 people is one of the main reasons why the Italian Government has to take a close interest in the future aligoment of the companies. In addition, the state sector is the major customer for all the companies as well as controlling SIT-Siemens.

For this reason there has been considerable debate during the past year, not only about how SIT-Siemens might relate to GTE, but about how the two other multi-nationals might fit into a realignment of the telecommunications manufacturing industry in Italy. These two are ITT, whose subsidiary FACE has about 15 per cent of the switching market, and L. M. Ericsson of Sweden, whose subsidiary FATME, has 19 per cent of the market.

These market shares are stabilised by the fact that each company serves a different zone for historic reasons, and all of them have factories in Italy, from which jobs cannot easily be jettisoned.

For the time being, therefore, SIP has encouraged all these companies to develop their different systems for the requirements of the Italian market, while expressing the hope that they will seek ways of reducing the number of separate systems. SIP and the Government have also put pressure on the multi-nationals to increase exports from Italy, and indeed this tacitly has been made a condition of their continuance on Italian soil.

However, the Italian Government almost certainly will not take precipitate action against any of the multi-nationals, if only because it is anxious to protect employment. The technological strength of the multinationals is also an asset to the Italians, particularly while there is uncertainty about the future strategy of SIT-Siemens.

M. W.

PHILIPS

Strong emphasis on research

OVER THE years telecommunications has grown from only two per cent of the business carried out by Philips, the Dutch electronics group, to around 10 per cent.

Philips' history in the telecommunications industry began shortly after the Second World War when the Dutch had to carry out extensive renovation of their telephone network because of the severe damage it had sustained.

The company began looking at the possibilities of making electronic exchanges in the early 1960s, using the transistor and some measure of computer control. By the end of the decade it had begun to develop a computer-processor-controlled range of exchanges called the PRX system.

In 1972 the first trial system was installed at Utrecht, with the co-operation of the Dutch posts and telecommunications authority (PTT) and by 1973 it was accepted for widescale introduction in the Dutch network.

Since then the PTT has installed nearly 180 PRX exchanges, most of which need little maintenance and can be left totally unattended. The PTT has said that eventually its manpower requirements will be one quarter of its present level to look after all the electronic exchanges.

For a long time Philips has been the monopoly supplier of equipment for the Dutch telephone network, but the PTT has been looking around for an alternative supplier believing that dependence on one company is not sound commercial sense. It chose L. M. Ericsson as a second supplier and Ericsson will be providing its AXE system of electronic exchanges—though its first one will not be in service until 1981.

Unlike many counthies, the PTT has not paid towards the development of the system, which means that Philips had to fund the entire project itself and so has tried to ensure that markets for its equipment exist outside the Netherlands.

So far its PRX system has been installed in Jersey, Indonesia, Brazil, Peru, Saudi Arabia, and Aruba Island, in the Caribbean, accounting for sales of nearly 100 exchanges.

The latest development of the PRX exchanges have been the production of a digital system which uses micro-processor and very large-scale integration techniques. The first of these is being installed in the Dutch network and will go into service next year.

However, Philips believes that large parts of the telecommunications network will remain analogue for a long time and that digitisation must follow a carefully-prepared plan. Otherwise, the telephone authorities could make their networks worse, not better, for their subscribers.

But Philips is also looking very carefully at the techniques of the future. It places a very strong emphasis on research and its research organisations receive finance which makes them independent from the product groups or division they serve. The company estimates that about 1.3 per cent of its sales revenue is set aside for finance.

It is actively investigating all the latest developments in telephone technology such as optic fibres, and viewdata information systems as well as seeking ways to make the present telecommunications systems more efficient.

For example, over the coming years information such as computer data, pictures and speech will all be sent in digital form. While suitable digital transmission methods have been developed for conventional telephone cable and optical glass fibres, no efficient methods exist for digital transmission via radio links.

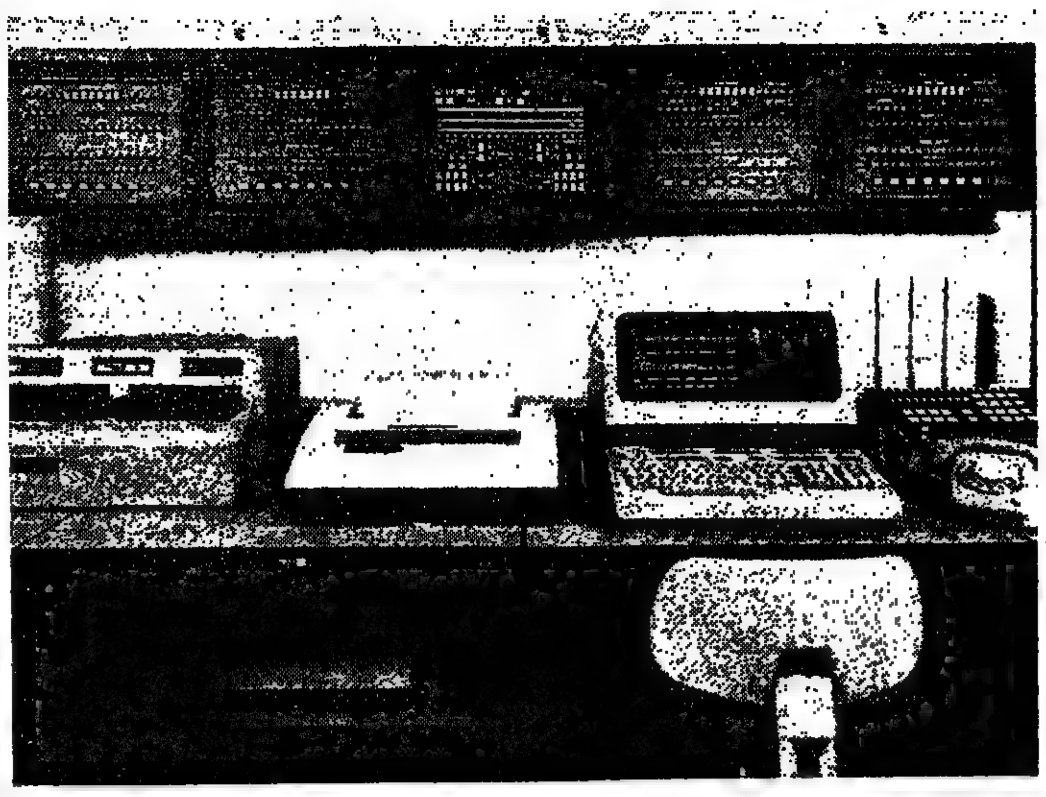
The problems have been that digital information takes up a lot of the available bandwidth —in simple terms, the transmitting space—which is a very wasteful use of the limited and congested airwaves.

Philips has been working on the design for a different system of transmitting the information in digital form which occupies a very narrow bandwidth and makes more efficient use of the frequency bands. It is called "tamed" frequency modulation.

In all, Philips has about six research laboratories, based in the UK, France, Germany, Belgium, the U.S., and its major operation in the Netherlands employing over 2,000.

Telecommunications is just one of about 13 separate product groups* which make up the activities of the organisation. But Philips is trying to ensure that it remains in this field despite the problems which exist in the industry.

E. W.



A Philips telephone network. At the top are two central control unit pairs with the system control panel in the middle. Below, from left, are a control tape cassette unit, hard copy line printer, VDU and transportable test panel for entering command instructions

NORTHERN TELECOM

Rapid expansion

NORTHERN TELECOM is Canada's major telecommunications manufacturer and is increasingly shaping itself into an international force. It claims to be the second largest manufacturer in the U.S. (though it is probably second equal with GTE) and fifth or sixth largest in the world. It is one of a "tricorporate family" (as it describes them) of companies, whose other two principal members are Bell Canada, the parent operating company, and Bell Northern Research, the research and development organisation, on which the company places much stress.

The company has almost 100 years of history behind it—it began in 1882—and now has 27 manufacturing plants in Canada, subsidiaries in the U.S. with 28 plants, two factories in the Irish Republic and one each in the U.K., Brazil, Malaysia and Turkey. It is growing strongly —sales in 1978 were, at C$1.5bn, $280m up on the previous year, while the profits of $100m were up by $15m on 1977. The company's chairman, Robert Scrivener, told his shareholders that much of that growth was, and would continue to be, abroad: "As we have forecast for the past several years, Canadian sales continue to drop as a percentage of telecommunications manufacturing sales. The continued expansion of our U.S. and international operations will mean an even more significant proportion of our sales will be made outside Canada in the coming years. This, even though we expect our Canadian operations to grow substantially over the next five years."

Markets

Much of the foreign activity to which Mr. Scrivener refers is centred on the U.S.: he remarks elsewhere in his report to shareholders that in Europe, as in other markets, sales were small because "procurement and technological decisions are often made to meet national industrial development policies rather than the more familiar criteria of technology, quality, reliability and price"—a tactic of which Mr. Scrivener disapproves: however, the sales made in Western Europe are "another beach-head in what we consider to be one of our major markets of the future."

Over the past year, then, the company has concentrated its foreign effort on the U.S., and has seen strong growth. Operating through its subsidiary, Northern Telecom Inc., it raised sales by 52 per cent over 1977. Two important acquisitions were made: Danray, in Dallas, which produces computer-controlled switching equipment and private exchanges: and Eastern Data Industries with its subsidiary, Spectron, which manufactures equipment to test and monitor the quality of data transmission. Both companies, especially Danray, grew rapidly: while the previously-acquired Cook Electric Company of Chicago saw sales and profits grow by 21 per cent and 66 per cent respectively.

A second pair of acquisitions, also in the U.S., was made by the company's systems division, NT Systems Corporation, formed to oversee its office equipment division. The division has taken over Sycor, of Ann Arbor, and Data 100, of Minneapolis, both with a strong presence in the distributed information processing terminal market. The company sees the acquisition of these companies as "an essential element in the creation of a corporation that will be a leader in the clearly identified trend of a coming together of the telecommunications and data processing technologies"—a theme on which the company places strong emphasis.

In the all-important area of switching, the company has marketed for the past eight years the SP1 computer-controlled electronic exchange, which helped bring computer-control techniques to smaller town and rural exchanges both in Canada and in the U.S. NT is even prouder of its DMS digital switching range, announced in 1976 and claimed to be the "first telecommunications manufacturer in the world to publicly commit itself to firm introductory dates for a complete line of digital switching and transmission systems." The range goes up from the DMS 1, with as few as 32 lines, to the DMS 100, with as many as 100,000 lines, designed as a central office switching system.

In the past year, the DMS10, with a capacity from a few hundred to 12,000 lines, has received a welcome in the U.S. independent operators market, one which is crucial for NT if it is to grow and succeed with its new digital family. It also notes that its private business communications system, the SL1, doubles its shipments to the U.S., while also selling in Europe, Asia, the Middle East and Latin America.

In research and development, the company, together with Bell-Northern Research, is increasing its stake. It spent $96m on research last year, up over 40 per cent on the previous year: it plans to spend $135m in the current year. More than 3,000—one in every nine—of its employees are engaged in research and development in the U.S. and Canada. The company invests these "knowledge workers" with enormous importance, and has initiated a high-level programme aimed at "managing knowledge workers better than any of our competitors, thus improving our competitive position in the world telecommunications marketplace and creating a work environment to which the most talented will be attracted."

This strategy, together with the pattern of acquisitions, are in turn part of a greater plan which the company gives the generic name of "the Intelligent Universe." The concept is by no means unique to the company — indeed, every advanced communications company shares in it and uses it as a backdrop to its decisions: NT is unusual in the stress it lays upon it, presumably designed both to imbue its workers with the idea and to introduce it to its customers. At times it reaches quasi-messianic fervour in describing the end product of this universe—"since all systems in the Intelligent Universe are electronic, the distinction between the basic elements, computers and telecommunications, begins to disappear as the Intelligent Universe evolves. Systems become increasingly similar in function and design: equipment similar both in what is done and how it is made. Eventually computing, data processing and communications networking become a meld of very similar and compatible equipment."

Thus the theory behind the practice: the reason for the acquisitions, which in turn dictate a search for an ever-wider world market. A concentration on telecommunications manufacture has given way to the need to acquire expertise in and the capacity for data processing. The office has ceased to be merely another housing for the telephone, and becomes an opportunity for systems configuration

So, too, the need to move out of the comparatively flat Canadian economy into other markets, especially the U.S. Northern Telecom has got its message well rehearsed: it now needs the markets to hear it.

J. L.

NIPPON ELECTRIC

Bid for major contracts

THE Nippon Electric Company is largely instrumental in making the Japanese as keen competitors in the telecommunications field as they are in cars and consumer electronics.

In the past few years, the company has made it clear that it means to bid for the major contracts throughout the world, that it has a strategy for entering the rich American market, that is one of the leading—if not the leading—company in the world for satellite technology and for micro-wave stations, and that it will be a prime mover in the group of Japanese companies which are deliberately attempting, in concert with the Japanese Government, to take on IBM.

Nippon Electric has been in existence for about a century, and was built up again after the 1939-45 war with the aid of the Bell subsidiary, Western Electric (with which it is now often in fierce competition). Since the mid-1970s the company's fortunes, while on an upward trend, have dipped and surged: down in 1975 and 1976, very strongly ahead in 1977, ahead again in sales last year, with a dip in the rate of profit.

Last year's sales stood at \$3.3bn, up from \$2.9bn in the previous year; profits were \$63m, down from \$94m in the previous year, a company record. Mr. Koji Kobayashi, the company's chairman, said sluggishness in the Japanese economy, the rapid appreciation of the yen, foreign worries over the increasing trade imbalance between Japan and the rest of the world, all contributed to the slippage in the 1978 surplus.

In the present year, Mr. Kobayashi forecasts "a moderate recovery in Japan's economy in the immediate future," permitting the company "to expect a reasonable increase in sales volume in fiscal 1979."

The company is now fully multinational: it has 36 plants and 50 sales offices in Japan, complemented by overseas affiliates operating 13 plants in 10 countries, with marketing and other facilities in eight more. There are 60,000 employees, many of them overseas. Like many Japanese companies, Nippon Electric moved strongly into export and overseas markets in the late 1950s, initially with direct exports, but gradually changing over to direct investments in plant and affiliates.

These international operations are intended to play a bigger part than at present in Nippon Electric's affairs, which means that the company will be still more competitive in the world telecommunications market, especially on price. Japan's economy is not expected to pick up markedly, as those of Europe and the U.S. are, and so these parts of the world will become, even more, prime targets.

In the U.S., the company's sales have gone up despite the rapid rise in the yen: the company has opened a manufacturing subsidiary in the suburbs of Dallas, Texas, to manufacture electronic PABXs (private automatic branch exchanges)—and in Lexington, the company opened a wholly-owned subsidiary named NEC Information Systems to market computers and peripherals. The third company in the U.S. is NEC Microcomputers, which expanded its sales in 1978, too.

In Europe, the company so far has been less successful than in the U.S., though, in common with other electronic and communications companies, it sees Europe as a prime area for growth in the next two decades. It has sold telex equipment in Greece, satellite communications earth stations in Austria and the UK, and has a small semi-conductor plant in Ireland—but it wants further expansion and so far has not found it.

However, there are continuing strong indications that the company is about to make a major push into the European semi-conductor market, of which Japanese companies at present take only \$25m in a market estimated to be worth about \$1.5bn in 1978.

The company is carrying out a financial analysis of the European market to determine when, where and if its investment should be placed. It is possible that it will upgrade its plant in Ireland, but that is apparently thought an unlikely option.

Elsewhere in the world, the company has profited from the swing towards satellite and microwave transmission, especially in developing countries. In the past year, it has sold microwave stations to Brazil, Algeria, Egypt, Ghana and Zambia, and had satellite earth station orders from Colombia, Guyana and Uganda. The Algerian order will be a particularly arduous one to complete, involving as it does the construction of a 1,200-mile microwave link across the Sahara Desert, with 62 repeater stations making up the link.

In Japan, the company is the prime supplier of all sorts of equipment to NTT, the Japanese PTT, including a joint project of 11 miles of fibre cable. It is also a major supplier to NHK, the Japanese broadcasting system. Nippon Electric has been a leading participant in NTT's ambitious scheme, beginning this year to provide a high-capacity mobile telephone system which is aimed at accommodating 1m subscribers.

The company has its own term to express the marriage of computer and telephone, which it sees as its guiding philosophy—it is "C & C," standing for computers and communications. In a statement last year, Mr. Kobayashi told his shareholders that he expected "the C & C market to expand even further and offer new opportunities for the type of products the company provides.

"Our digital electronics switching systems are now on the market, computers with communications capability are in service for distributed processing requirements, a variety of terminals have been developed for man's interface with computers and communications networks, and solid-state high-integration micro-electronic devices are manufactured in volume."

In a high-level seminar in Dallas earlier this year, Mr. Kobayashi, whose company was demonstrating a voice-activated computer, said flatly that C & C would revolutionise office and factory production before the end of the century.

More immediately, Nippon Electric is in the front line of a co-ordinated, "Japan Incorporated" push into computers, in which MITI, the country's trade and industry ministry, together with the main com- leading plug compatible house Fujitsu, Mitsubishi, Hitachi and Toshiba — have sought to develop Japanese ways of beating IBM (IBM still holds around 25 per cent of the Japanese market).

The houses have amalgamated into two groups — Fujitsu/Mitsubishi/Hitachi and NEC/Toshiba, the first moving into the IBM plug-compatible market (it has linked with Amdahl, the leading plus compatible house in the U.S.) while NEC/Toshiba took the same route as the UK company ICL, by developing their own line.

However, all five companies collaborate on joint research into the MITI project for research into Very Large Scale Integration (VLSI) with the aim of putting even more components on a sliver of silicon.

The project has been met by a good deal of alarm from U.S. manufacturers, especially the semi-conductor manufacturers, whose aggressive technical skills and salesmanship have swept the world, and who now see the Japanese gearing up to do likewise.

Nippon Electric is a prime mover in this thrust, believing as it does that computer technology and communications technology can no longer be separated, and that to be in one, you must be ahead of the game in the other.

GEC

Steady growth

THE UK home market for telecommunications is dominated by three companies—the General Electric Company (GEC), Plessey and Standard Telephone and Cable, the UK subsidiary of ITT. The biggest of these is GEC, the country's largest electronics company by far, and also its largest private employer (155,000 in the UK, and some 27,000 overseas).

The past year saw another period of steady growth—sales were £2.5bn, nearly £160m up on the previous year: profit after tax, at £220m, was more than £60m up on 1978. The company has interests spanning the range of electrical products—it makes TVs and other consumer electronic products, lighting of all kinds, specialised integrated circuits (and will soon, in alliance with Fairchild of the U.S., go into mass IC production), heavy power plant, measurement and control instrumentation, space and defence equipment, wire and cables, gas turbines, mobile radios, diesels, and, of course, telecommunications equipment.

Spread

This spread of interests means that the company does not, as do Plessey and STC, rely heavily on telecommunications: however, the importance of the telecommunications division has been underscored both by the company's move into high-volume IC production—telecommunications is a major user of chips—and by the acquisition of the U.S. office equipment company, A. B. Dick: Telecommunications, as we have seen, is the base technology for the "office of the future." Thus, ten years after GEC in its present form was created, after a merger of the company with English Electric and AEI, GEC must once more make big decisions about its future, especially in the communications market.

The main GEC divisions and their 1978-79 turnovers are shown on the accompanying table: it can be seen that the contribution made by the telecommunications division — in which electronics and automation are included—is the largest single one. Even this understates the case: the important cable and wire division is itself strongly in the telecommunications market, while the same may be said for many of the overseas companies. Only the power division (heavy turbine generators, gas turbines, switchgear and transformers) and the industrial division (diesel engines, locomotive stock, electric motors and lifts) are wholly outside developments in the communications market.

The consumer electronics division, where performance has been least satisfactory, is still largely outside: but the convergence of TV and telephone technologies through Prestel points to developments in consumer electronics which are already generically known as the "home of the future," in which the TV set takes pride of place as a medium not just of entertainment but of education, purchasing, domestic device control, security and possibly even exercising the voting right as well. GEC's TV division since last year has been largely run by the Japanese company Hitachi, under a joint arrangement.

Like Plessey and STC, GEC Telecommunications has gone through a lean period in recent years, both because of the fall-off in orders from the Post Office (now increased once more) and because of the transition from electromechanical equipment to semi- and fully-electronic exchanges, which is continuing. The profits in telecommunications recovered from a dip in the previous year to exceed the level set in 1976-77: deliveries of the large semi-electronic exchange, TXE4, were stepped up: and orders over the past year were around £200m.

In the business systems market, the company has introduced a business communications system known as the SL-I, which can be linked in to the electronic typewriter, visual display screens and computers, and which is fully digital. At the same time, the company manufacturers the Post Office standard customers digital subscribers' system (CDSSI), which it sees as complementing the SL-I "to give an all-product range covering up to 7,600 extensions and provides the nucleus for integrated office automation systems capable of handling such services as video, facsimile and data."

	Turnover		Profit before taxation	
	1979 £m	1978 £m	1979 £m	1978 £m
UK				
Power engineering	401	393	56.1	39.8
Industrial	327	294	55.4	56.7
Electronics, automation and telecommunications	862	672	101.2	76.4
Components, cables and wire	328	298	35.2	31.6
Consumer products	278	244	23.9	18.9
Associated companies	91	85	6.3	7.7
Overseas				
Subsidiaries	487	608	47.4	55.0
Associated companies	145	68	15.5	6.0
Other activities and items	22	37	5.1	4.9
Interest receivable, less payable	—	—	32.3	17.1
	2,941	2,699	378.4	325.3

Source: GEC annual report 1979 (includes inter-group sales).

Also in line with the other companies, the telecommunications division has much riding on the success of System X in the export markets. The company has expanded its commitment to System X over the past year, and now has the first exchanges in manufacture. Though little is known of the development of the system (whether at GEC or anywhere else), it appears clear that, first, the Post Office has thrown a good deal of weight behind its development, a move which has encouraged the manufacturers; and that, second, major differences between the three manufacturers remain, and could threaten to disrupt the co-operation between them and the Post Office which presently exists.

Restructure

An attempt to restructure the telecommunications industry, made by the National Enterprise Board last year but never revealed officially, came to nothing: GEC was reportedly in favour of it, but problems over the status of STC and doubts from Plessey were understood to stand in the way of success. Speculation of widescale reorganisation has now subsided: it seems unlikely that GEC will make a bid for either of its two colleagues (the move would be unlikely to attract the approval of the Monopolies Commission, leaving aside considerations of industrial or economic viability).

For the future, the company appears relatively strongly placed: extremely strong within the UK economy, and arguably in the major league worldwide (though, in terms of turnover, near its foot). A recent authoritative review by stockbrokers Laurie, Millbank of the UK electronics scene concluded on GEC that "the company has an excellent record of achievement reflecting strong management . . . (it) . . . has a major commitment to areas with growth potential over the long-term . . . we are optimistic about the future for the electronics, automation and telecommunications division . . . . in the overseas markets where GEC operates we would be most optimistic about plans for growth in the U.S."

In the past year, the company has formed joint ventures with Hitachi and Fairchild, bought A. B. Dick and seems likely to buy Averys, the weighing machine company, now that the proposed bid has been cleared by the Monopolies Commission. With cash assets of around £700m, GEC can clearly afford to shop around further: the U.S. appears to be the preferred geographical area: while communications must be the preferred sector. We can expect further movement from the giant in the next 12 months.

J.L.

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EUROPEAN INDUSTRY IN MIDDLE AGE

By SUE CAMERON, Chemicals Correspondent

Plastics' salad days are over

THE EUROPEAN plastics industry has spent the last few years struggling with overcapacity, weak prices and rising costs: it is now having to face the added strain of coping with the onset of middle age.

The youthful days when the world was its oyster are fading fast as growth rate in demand falls back. From now on it is going to have to work that much harder to stimulate sales and maintain its position in the international market place.

There are a number of ways in which chemical companies can try to deal with the new-found maturity of the industry. In the short-term they can attempt to boost market shares by cutting prices—although the greater part of the industry is praying that no-one will take this particular option. Looking further ahead, they can concentrate on streamlining their businesses and on making production processes more efficient.

Another approach is to start investing substantially larger sums in research and development in the hope that a better product will tempt new customers and arouse fresh interest in old ones. Some plastics producers could even choose to go one step further and branch out into speciality products. The disadvantage to this is that it requires heavy capital spending on new plant.

There are signs that the major plastics companies are thinking along slightly different lines in planning for the next five or 10 years. The only thing they are all agreed on is that they have to come to terms with the fact that their industry's salad days are over.

For many years the industry's market growth depended largely on substituting plastics for traditional materials such as wood, glass and steel. Obvious opportunities for expansion through substitution existed right up to the early years of this decade and they were reflected in a steadily rising demand.

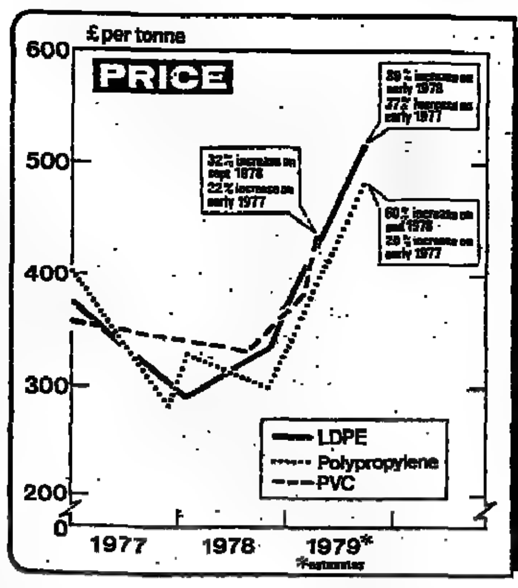
The UK-based *Imperial* Chemical Industries, which produces three of the five major polymers, says demand for polyvinyl chloride—PVC—was growing at an annual rate of 12.5 per cent during the early 1970s *while demand for low* density polyethylene—LDPE—was increasing at an annual rate of 16 per cent. Demand for polypropylene was rising by a thumping 25 per cent a year.

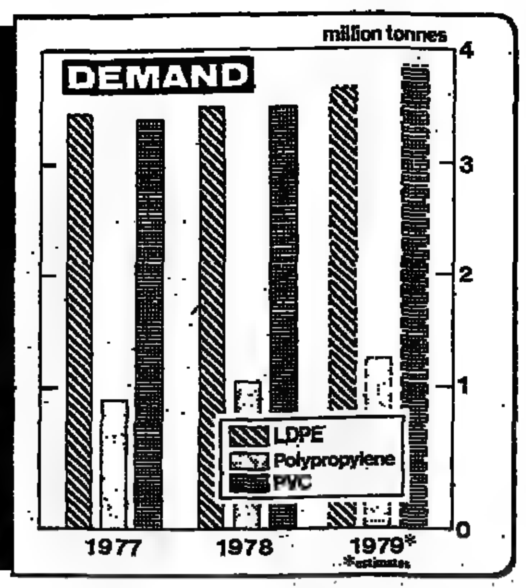
This rosy picture was abruptly shattered by the Organisation of Petroleum Exporting Countries and the 1973 oil crisis. During the ensuing recession, demand for polymers slumped.

It has been building up again ever since and during the recovery period there have been some dramatic year-on-year increases in the demand for individual plastics. But none of the chemical majors now expects demand to grow consistently at the rates of earlier years. They are well aware that ladies of a certain age have to slow down a little. Yet they are by no means filled with despair by the outlook for the next four or five years—despite most of them being resigned to the prospect of a recession in the West in 1980-81.

Nearly all of them stress that while most of the obvious substitutions for traditional materials have already been made, the possibilities are far from exhausted. They add that the current oil crisis is certain to boost demand for plastic simply because it is so much lighter than metal or glass and therefore more energy efficient.

The Shell international group of chemical companies also says there are probably still a number of opportunities for substitution that have not yet been seized. It mutters darkly that someone might have thought of bags and spoons sooner.





"It is only during the last 12 to 18 months that plastic cutlery—usually made from LDPE—has really started taking over from metal for mass catering purposes," the group says. "Yet cutlery could be said to have provided an obvious enough opening for substitution.

Paper bags

"Another example is plastic bags. Three years ago around 60 per cent of all the bags produced were still being made of paper and only 40 per cent were plastic. We estimate that today some 90 per cent of all bags are plastic."

The growth in demand which the chemical companies are looking for—few are so bold as to commit themselves to a hard and fast "forecast" or "prediction"—varies from one polymer to another. ICI reckons that over the next five years there will be an annual increase in demand of 5 per cent for LDPE, 4 to 5 per cent for PVC and between 12 and 14 per cent for polypropylene.

The group admits that it is "probably more bullish than anyone" on the outlook for polypropylene although it is not alone in expecting this year's demand for the polymer to be 20 per cent up on 1978. Some other producers are projecting an increase of 25 per cent compared to last year.

Polypropylene is one of the most flourishing plastics at present—partly because it is so much younger than some of the other materials such as PVC. ICI believes there are particularly good prospects for polypropylene in the car components field. The group points out that the use of plastics in the European automotive industry is growing rapidly—but penetration is still well below the levels achieved in the U.S.

One reason why ICI is so optimistic about the future of polypropylene is because it estimates supply and demand for the polymer should be in balance by 1982. The supply position on the other major polymers is generally bleaker, with little hope of a quick end to current overcapacity in production.

ICI states, for example, that at present there is "a lot of spare LDPE capacity swilling around in Europe" and it reckons that next year most LDPE plants will be operating at only 80 per cent of their potential. It believes a small but steady growth in demand will slowly mitigate this situation, but it estimates that *capacity utilisation will not* reach 95 per cent until 1985.

This could mean a long haul for companies making LDPE—especially as it will come on top of what ICI estimates to have been a combined loss of £200m by European producers of the polymer last year.

Another factor that could detract from the reasonably hopeful picture on demand growth is a return to price cutting by the major European chemical producers. The dramatic rise in *the cost of oil-based feedstocks*—chiefly naphtha—which followed the revolution in Iran gave the chemical majors the opportunity to raise substantially the prices of their plastics materials and so far the *increases have held.*

Repeated attempts to put up prices during the last few years had all failed because some producers had always insisted on going for volume in a weak market at the expense of price. *The fear now is* that a recession next year will bring a resurgence of what was effectively a price war.

An economic downturn could bring much stiffer resistance to higher polymer prices and *many of the smaller plastics* processing companies which buy from the chemical majors would, in any case, be vulnerable during a recession. Yet in real terms plastics prices have not risen very steeply during the past three years.

ICI's LDPE, for example, was priced at £375 a tonne in early 1977 but was forced down to £290 a tonne early last year before rising in stages to £515 a tonne by last month. Compared to the beginning of 1978 the *group's LDPE prices have risen* 80 per cent—but compared to the start of 1977 they have gone up by only 37 per cent.

A return to weak prices plus continuing overcapacity could do much to temper the benefits of a projected steady, if modest, growth in demand for plastics materials. On the other hand, these same two elements could lead to a greater degree of rationalisation within the industry. This might be brutal but it would make conditions far *easier for the fitter companies* which survived.

Yet even with considerable rationalisation, even with the maintenance of sensible pricing and the mopping up of outstanding substitution opportunities, Europe's plastics producers will *still have to develop somewhat* different policies if they are to see their industry age both gracefully and successfully.

The Shell chemical group reckons the industry will opt for the fairly conventional approach of trying even harder to cut production costs. It says its own researchers are looking to such methods of streamlining costs as using catalysts with higher activity—better catalysts can increase efficiency by as much as *10 times.*

Development

Shell thinks the scope for modifying the products themselves is limited. It says most of the obvious improvements have already been made although it admits there is still some room for development—especially in polypropylene.

The group does not foresee any strong movement away from *commodity plastics into specialties.* It points out that diversification into specialties is extremely costly because of the different technology that is required. It adds that a changeover of this type would probably take between 10 and 15 years to plan and follow through because of the new plant that would have to be built and the human expertise that would have to be acquired.

Hoechst does not expect the major polymer producers to go into highly specialised plastics either but it does think there will be far more work put into the modification of existing materials. It believes that further research will lead to polymers "with interesting new *properties*" *and it cites such* recent developments as laminates of dissimilar materials.

The German group says that "substantially more" will have to be spent on product research but it adds that improved polymers with new market applica*tions could do much to sustain* demand growth. One company that has decided to move towards speciality products is BP Chemicals.

The company recalls its thinking when deciding whether or not to buy sections of Union Carbide's and Monsanto's chemicals businesses in Europe last year: "We saw an industry likely to enjoy growth rates above those of GNP for some time to come but an industry *heading* for its mature phase, particularly in respect of some of the bulk commodity products.

"In looking at our industry prospects and our own position . . . we concluded that our strategy should be directed, in the first instance, to continued exploitation of our strengths—to an extension of our range of interests both in a geographical and in a product sense.

"For the first, a wider move into Europe was an obvious choice. For the second we wanted to develop our product range—to move into higher added value products where we would be providing a more sophisticated technical service to a wider range of customers."

BP Chemicals says that when it finally bought Union Carbide chemical interests, it immediately increased its involvement in "what might be described as speciality products such as the special grades of LDPE produced at Antwerp."

The next five years are certain to see some clearly-defined changes of emphasis in the plastics industry, but the period is unlikely to be an easy one for the chemical majors. In the short term there will be no glittering prizes for those which *make the transition from youth* to maturity successfully. Yet the penalties for failure could be great.

Letters to the Editor

Accidents and bargains

From Mr. A. G. Horsnail

Sir,—While we continue to be mesmerised by new wage demands, year by year, we are forgetting many other considerations which could relieve the complexities of industrial life and which have an important bearing upon *industrial welfare.*

One important fault of "free collective bargaining," frequently overlooked, is the immense amount of union and management time taken up by preliminary and final negotia*tions in addition to all the* discord and strike play which takes place.

I am advised that leading industrial companies can spend six months a year negotiating, from start to finish, "free collective bargaining" claims. This compares with six to eight weeks settling Phase 1 and 2 "wages policy" claims locally.

All this negotiating effort for "free collective bargaining" reduces the remaining time available for management and unions to settle other employment factors—like safer working practices and methods. Recent UK industrial accident statistics show:

	Deaths	Accidents (000's)
1972	483	258
1973	558	272
1974	498	266
1975	440	243
1976	395	241
1977	514	325
1978	551	324

(*Source: Health and Safety* Executive)

The good years, 1975 and 1976, correspond with years in which Phases 1 and 2 fixed "wages policy" agreements were in force. The bad years correspond with periods of "free collective bargaining/industrial strife."

A. G. Horsnail.
Economic Adviser,
Burge and Co.,
25, Worship Street, EC2.

Employment fiction

From Mr. G. Bowey

Sir,—Mr. G. Eedle writes on September 12 regarding "Employment Fiction." With respect to him, this gentleman appears to be one of the few people in this country, with the exception of successive Governments, who is not well aware that the published unemployment figures bear little relationship to the facts—which is no different to any government statistic.

A high proportion of youngsters are unemployable because of indifferent schooling and parents—we have an office girl aged 17½ and she did not know that Ireland is divided into two nor can she add up three sets of figures. So far as adults are concerned, most of those between the ages of 18 and 40 are not interested in any job where they are unable to merge into a sea of other people until pay day—indeed why bother at all when the country pays for their necessities and they have plenty of time to take a casual job where they may well be paid in cash with a nod and a wink.

The prospect of unemployment seems to matter little nowadays—this is shown by the AUEW which is intent upon crippling industry, as shown at BL's Cowley Factory where men on the assembly lines can be seen attaching a component, then removing it, then reattaching it so that output can be kept down thus shielding the slackers.

We have allowed our standards in the country to be reduced ever since 1945 until we are now a third class nation managing to survive on past glories. Unhappily, until we reintroduce incentives to succeed—the most powerful of which is the need to earn in a competitive environment sufficient to provide a good living—then we will continue to deteriorate.

In our present society, the numbers of unemployed are really unimportant.

G. Bowey.
Senior Partner,
T S Associates and Company,
105, High Street,
Oxford.

Fighting the real enemy

From the Chairman, Weir Pumps

Sir,—Your editorial of September 14 concerning the engineering dispute only touches upon the worst effect which is the adverse reaction of foreign customers made worse by the overvalued pound. Anyone who has had to travel widely abroad to convince customers that delivery promises etc. will be honoured knows full well how badly our industrial disputes (nonsense?) have hurt British exports. And thus our economy and society.

Other countries can perhaps afford ignorance of what it's like to work in and deal with foreign countries—because they have good industrial performance—but Britain cannot. My own period of close exposure to British Government, politicians and trade union leaders constantly confirmed that these key bodies of powerful people know virtually nothing of the world beyond our shores. Not to mention their inability to read the foreign press.

If they did, then perhaps the unions would stop fighting management over the declining body of our country and realise that their overwhelming concern should be to combine interests and fight the real enemy—our tough and united competitors overseas. Perhaps they might also sound out their members at shop floor level who increasingly are becoming aware of this point.

Lucien Wigdor.
Dunster House,
Mark Lane, EC3.

Venture capital

From Mr. Michael G. Ayres

Sir,—Recently there has been a great deal of lip service paid to small businesses and the entrepreneur; my experience suggests that there is no real venture capital available in the UK.

On the one hand you have the clearing banks who rightly or wrongly consider themselves short term sources of capital, without the flexibility to meet differing requirements and on the other hand you have the "so called" venture capital institutions who in my experience are really expansion capital institutions.

The one source of true venture capital in recent years was the previous government, through it's various agencies, but this has been at least curtailed, if not re-directed. Latterly anyway, it seemed preoccupied with investing in high technology projects or propping up existing companies.

All of these services are admirable but in my view they do not support an area of tre*mendous need for the young* company. Not a great deal of money is usually involved either, I would estimate that £10,000-£20,000 would satisfy most small companies during their infancy. This sum is the *investment* made by a company recruiting a middle-manager during his first year's employment, with none of the legal responsibilities now faced by an employer.

There is clear evidence to suggest that this country works better in small units, hence our abysmal productivity record in recent years. The small business is efficient because people cannot hide as they can in a large company, and it would be too easy to point a finger at some large organisations at the moment.

I am not sure what the answer should be—perhaps a scheme whereby large companies take on minority equity interest in small companies. The trouble with that is the small company will be "swallowed-up" by the big company, if successful—turning a full circle!

Where does the small businessman who is establishing an industrial trading company go to find his capital? I wish I knew. It would be very easy to give up and go back into industry as an employee but I think I will persevere as "Maggie" may come good!

Michael G. Ayres,
(Director),
Portable Microsystems.
Forby House,
18, Market Place,
Brackley, Northants.

Repair of the month

From Dr. Robin Carter

Sir,—Mr. Mullard (Sept. 8), fails to display a proper appreciation of this country's progress in the last few years. A mere eight weeks to repair his dishwasher? If this happy prediction is fulfilled, the manufacturer concerned will have acted like greased lightning compared with past performances. *In days of yore, I once* waited *ten months* for a simple and straightforward repair, under guarantee, to my £100 (1970) dishwasher, manufactured by the British division of an American company whose *name is a worldwide household* word. Like Mr. Mullard, I eventually tried to get some action by a direct appeal to the company's managing director, and, like Mr. Mullard, I received the usual bland, sym*pathetic and false assurances* from both the "Consumer Relations" and the "Customer Service" departments (they must run in-house competitions for these jokey names). Finally, my name was drawn from the hat for the Repair of the Month, and the machine then worked properly for a whole year and a half before the next major fault developed.

So let Mr. Mullard be duly thankful: Things are getting better! For my part, I confess that I lacked the patience and tenacity to continue the struggle, and, rather than spend another indefinite period with a box of useless junk in the kitchen, I sold it for £10 and bought a well-known Italian *dishwasher* for £62 (new). This has proved efficient and reliable during nearly six years of daily use: when a repair became necessary last January, it was effected within 48 hours, and at a fair price. But comparisons, they say, are odious, and one should not generalise from par*ticulars (a lesson I learned long* ago from *Which?* magazine, where my first dishwasher was once rated a "Best Buy" . . . .); unfortunately, to judge from trade statistics, the fallacy is increasingly persuasive: perhaps many consumers are just not sufficiently impressed by the rate of progress I have indicated?

Robin Carter.
Highbank, Speltham Hill,
Hambledon, Hants.

Pension funding

From Mr. Raymond Nottage

Sir,—Mr. Spedding states (*September 12*), in support of Mr. Shucksmith, that the long term costs of financing pensions would increase if a change were made from the funded basis to a pay-as-you-go approach "whether or not the fund earns a real rate of return."

This view seems to be contrary to that expressed by the Government Actuary's Department in their evidence to the Wilson Committee, part of which I quoted in my earlier letter. The Department's concluding paragraph said:

"There seems to be little doubt that, if it became the accepted view that a positive real rate of return was unlikely to be earned even in the long term, the system of funding as at present operated in the United Kingdom could not long survive and would have to be substantially modified or replaced by alternative arrangements."

One must therefore decide whether the truth lies with Messrs Shucksmith and Spedding or with their professional colleagues in the Government Actuary's Department.

Raymond Nottage.
Reform Club, Pall Mall, SW1.

Undervalued engineers

From the Executive Director, Council of Engineering Institutions

Sir,—It is becoming a commonplace that engineers in this country are undervalued and under rewarded. In case it should be thought that engineers are overstating their case, the table "Best Paid Managers in Manufacturing and Service Companies" which you published in your issue of September 13, provides striking evidence.

"Senior Development Engineer" is rated 30th out of 31 with a median salary of £6,600, which actually shows a reduction since last year. His extra earnings and other benefits are also revealed as significantly lower than those of most other managers.

A man or woman holding this position should be a Chartered Engineer with a degree and several years practical training and responsible experience. Is it surprising that the engineering profession is unable to attract enough bright young people to meet thte needs of industry? Is it possible that the performance of British Industry is at least partly due to the low value it places on those who design and develop its products?

Denys Wood.
2, Little Smith Street, SW1.

Today's Events

GENERAL

UK: Zimbabwe-Rhodesia constitutional conference continues, Lancaster House, London.

Amalgamated Union of Engineering Workers conference continues, Eastbourne.

Engineering industry pay talks resume. Second day of engin*eering workers national strike.*

Association of District Councils four-day meeting opens in Scarborough.

Royal Commission on Environmental Pollution publishes report on agricultural pollution.

Overseas: President Pertini of Italy starts five-day visit to West Germany.

United Nations General Assembly meets, New York.

EEC Foreign Ministers meet, Brussels.

Second day of EEC Agriculture Ministers meeting, Brussels.

Budget presented to Dutch Parliament.

OFFICIAL STATISTICS

Department of Trade publishes balance of payments current account and overseas trade figures for August.

COMPANY RESULTS

Final dividends: Elder Smith Goldsbrough Mort. F and C Eurotrust. Mills and Allen International. Ricardo Consulting Engineers. George H. Scoles and Co. Zetters Group. Interim dividends: Eurora Holdings. Bank of Scotland. Bemrose Corp. Bodycote International. Corinthian Holdings. Ibstock Johnsen. Inveresk Group. Law Land Company. Bernard Matthews. Rosedimond Investment Trust. Royco Group. Willis Faber. Interim figures: Jardine Japan Investment Trust. L. Ryan Holdings.

COMPANY MEETINGS

Airfix Industries, 17 Old Court Place, Kensington, W, 12. Brady *Industries, New Islington Works,* Ancoats, Manchester, 12. Bristol Evening Post, Temple Way, Bristol, 12. Gresham Investment Trust, Barrington House, Gresham Street, EC, 12. Group Investors, 2 St. Mary Axe, EC, 2.30. *Hazlewoods (Proprietary),* Empire Works, Rowditch, Derby, 12. S. Leboff (Fobel), Hendon Hall Hotel, Parson Street, Hendon, NW, 11. Moorgate Mercantile, Great Eastern Hotel, Liverpool Street, EC, 12. Polymark International, Jeddo Road, Shepherds Bush, London W, 3. Redland, Plaisterers' Hall, 1 London Wall, EC, 12.15.

Utd. Biscuits midway downturn to £16.1m

ALTHOUGH PRE-TAX profits of United Biscuits (Holdings) were down from £18.6m to £16.1m in the 28 weeks ended July 14, 1979, the directors are looking for a better second half and say profits for the year are likely to be about the same as the £42.21m for 1978.

Sales for the 28 weeks rose from £362.78m to £402.84m reflecting increases in the UK, North America and Europe but a sales fall from the rest of the world.

Sir Hector Laing, chairman, reminds shareholders that at the annual meeting in May he said the road haulage dispute had cost the UK company £3m in lost profits but that buoyant trading conditions since March had enabled some lost ground to be recovered.

He now says that taking the group's heavy investment programme into consideration, he believes the interim results should be considered satisfactory.

Stated earnings per share are 5p against 6.1p, but the interim dividend is raised from 1.5p to 1.7p—the previous total was 3.006p.

The chairman says most of the trading buoyancy in the biscuit company has been in chocolate lines, but because of shortage of capacity the group has been unable to supply all orders fully.

The foods company substantially increased its unit sales, particularly of potato crisps. The frozen foods and fast food restaurant companies are fulfilling expectations but in both areas the group is investing heavily for the future and incurring costs in the short term.

As was to be expected, sales of VAT-rated products were affected adversely when the rate was increased to 15 per cent. The increased VAT applies to only four weeks of the first half year and it is too early to know for how long consumer resistance will continue, says Sir Hector.

In the U.S., the Keebler Company had a satisfactory half year in dollar terms and, had 1978 average exchange rate applied, sterling profits and sales would have been £0.8m and £13m higher respectively.

	28 weeks 1979 £000	1978 £000
UK sales*	264,048	227,182
North America	124,526	121,672
Europe	12,494	10,833
Rest of world	1,773	3,111
Total sales	402,839	[illegible]
UK profit	11,872	14,883
North America	6,923	6,491
Europe loss	339	518
Rest of world loss	191	170
Trading profit†	18,065	20,686
Interest	1,935	2,091
Profit before tax	16,130	18,596
Taxation	3,401	3,294
Net profit	12,729	15,301

* Including exports. † After depreciation of £8.47m (£7.1m).

The Spanish company, Ortiz, which has been making very considerable losses for several years, achieved small trading profits in July and August and the chairman expects this improvement to continue.

See Lex

Terry Kirk

Sir, Hector Laing, chairman of United Biscuits, seen at the company's Harlesden factory.

Squeeze on H. Cory margins

PROFITS BEFORE tax of Horace Cory and Co., chemical colour maker, were down slightly from £253,000 to £249,000 in the six months to June 30, 1979. Turnover amounted to £1.37m, compared with £1.16m.

The directors say the results must be regarded as satisfactory in view of the difficulties experienced during the road haulage strike. They add that profit margins continued to be squeezed by increasing costs and it would be rash to forecast the year's outcome.

First half tax takes £130,000 (£132,000), giving earnings per share of 1.27p, against 1.29p. The interim dividend is increased from 0.37p to 0.6p—last year's total was 0.75318p from pre-tax profits of £510,000.

Process plant industry faces low demand

THE DEMAND for process plant from the developed world will be at a low level next year.

While demand will not be buoyant for general engineering products, contractors will have the advantage that in most cases they are not hardware manufacturers and will be able to obtain the best prices.

But the review says that it is possible that the increased resources resulting from the sharp increase in oil prices will lead to renewed investment

Petrolane Inc. gets London listing

A listing has been granted by the London Stock Exchange for 23.92m issued and reserved shares of common stock in Petrolane Incorporated, a Californian-based oil and gas company.

The listing is the company's first quote outside the U.S.

Petrolane's main activities include the marketing of liquid gas, oil and gas drilling and servicing and food retailing.

For the year ended September 30, 1978 the company reported pre-tax earnings of $90m ($81m). Current year net earnings are expected to be about $2.35 a share adjusted for a recent two-for-one stock split—an increase of about a fifth.

It is proposed that dividend payments equal to about 28 per cent of the prior year's net income per share.

Dealings in the shares begin today. They are being listed at the sterling equivalent of $48.75—yesterday's U.S. share price.

The listing has been arranged by S. G. Warburg and Co. Brokers are Cazenove and Co. and Rowe and Pitman.

HIGHLIGHTS

United Biscuit's first half figures show a fall in pre-tax profits to £16.1m from £18.6m, but the group says that the haulage strike cut into profits by even more than the £3m previously reckoned for, yet the company expects to recover the shortfall in the second half. Lex also takes a look at the battle between Spillers and Dalgety, considering the alternatives for shareholders as the first-closing date approaches. Elsewhere sterling's renewed volatility is now beginning to have an impact on interest rates both in the money market and the gilt-edged market. Lex comments. Figures from Simon, Ransomes Sims and Jefferies and Henry Sykes come in for comment inside and notes are also made on the results from Black and Edgington and Low and Bonar.

Low & Bonar rises 10% at six months

ELIMINATION OF unprofitable lines in the UK packaging division helped lift the taxable surplus of Low and Bonar Group by nearly 10 per cent, from £4.07m to £4.46m, in the six months to May 31, 1979.

The directors of the packaging, engineering and textiles concern say the slight fall in turnover to £70.55m (£70.83m) was mainly due to the UK packaging rationalisation and the conversion of overseas sales into sterling. The strong pound effectively reduced Canadian and African profits by £168,000, they add.

The profit, the directors say, is satisfactory considering the effect of the transport strike, higher interest rates, and the fierce competition in export markets, especially for engineering—aggravated by the strength of sterling.

The UK proportion of group profit increased from 38.6 per cent to 46.4 per cent, they add.

Tax took £2.08m, against £2.15m. The net interim dividend is stepped up from 4p to 5p per 50p share and includes 0.3655p for 1978 following the tax rate change. Last year's total was 12.1605p, paid from record profits of £8.66m.

Packaging division profits advanced from £1.01m to £1.98m after the reorganisation and rationalisation programme. The UK surplus surged to £891,000 (£73,000), while the Canadian profit was 37 per cent higher in dollar terms—reduced to 15.8 per cent on conversion to sterling.

The slight decline in engineering profits—from £1.34m to £1.31m—resulted from the severe competition in export markets, particularly in the electrical and heavy engineering areas.

The strong pound was partly responsible for the fall in textile division profits from £2.07m to £1.79m. The surplus was also affected by the reduction of the group's Nigerian shareholding to 40 per cent and the economic position prevailing in other parts of Africa, the directors say.

A geographical analysis of turnover and profits shows (in £000s): UK/EEC 45,899 (43,309) and 2,357 (1,709); Canada 15,915 (17,079) and 1,090 (941); and Africa 12,714 (14,669) and 1,640 (1,780).

	Six months 1979 £000	1978 £000
Sales	70,550	70,829
Trading profit	4,032	3,576
Associates	430	490
Profit before tax	4,462	4,066
Tax	2,078	2,150
Net profit	2,384	1,916
Minorities	432	358
Attributable	1,952	1,558
Interim div.	558	446
Pref. div.	8	8

• comment

The news from Low and Bonar is quite respectable, but not surprising. The market has known about the group's world-wide rationalisation and reorganisation programme for some time and received word of higher profits on lower turnover with satisfaction; the share price was lifted 3p to 175p yesterday. The company, which has a market capitalisation of around £19.5m, is spending more than £6m on capital improvements in 1978-79. The deliberate policy of reducing the overseas share of profits is bearing fruit and this has helped to build up UK operations. Although sterling cut into first-half profits, it could be less threatening in future if the exchange rate continues on its present course. The interim dividend is increased by 25 per cent, and a similar advance in the final could yield over 12 per cent, an attractive return. If 1979 pre-tax earnings reach £9m, then the fully taxed p/e could stand at over 5—not too expensive.

Black & Edgington hit by higher interest charge

TRADING PROFITS of Black and Edgington, the leisure and workwear group, were little changed at £1.96m, but increased interest charges meant that the pre-tax surplus fell from £1.54m to £1.18m for the first six months of 1979. Turnover was £8.51m higher at £35.24m.

The first quarter's trading was badly affected by the severe winter and the transport drivers' strike, but in the second three months most areas of the group traded satisfactorily.

It is expected that the camping manufacturing division, which last year incurred substantial losses, will reach break-even this year.

Mr Robin Duthie, the chairman, says it is not envisaged that trading conditions in the second half will be easy and a continuation of high interest rates, together with a strong sterling exchange rate will tend to hold back profit recovery.

The chairman points out that the group has expanded fast in recent years largely by acquisition, and a considerable rationalisation of certain parts is under way. He is confident that a sound base for 1980 is being created.

After tax of £354,000 (£400,000), net profits for the period dropped from £1.14m to £825,000.

The net interim dividend is kept at 2.2p per 50p share, costing £413,000 (£401,000) and the Board expects to recommend a maintained final—last year's total was 4.9888p on £2.34m pre-tax profit.

• comment

Having completed a string of acquisitions, Black and Edgington is going through a period of retrenchment as it adjusts to its enlarged base. Unfortunately, this has coincided with adverse weather conditions and the lorry drivers' strike, and by the end of the first half, profits had slipped by 23 per cent. Caravan production was particularly hard hit just before the lucrative summer season. On the camping side there is an element of recovery following the closure of a number of factories after the company lost a large export contract. Overseas competition is still severe but here are now efforts to diversify into more specialised camping products. At this stage the outlook for the rest of the year is still unclear. Certainly it will be difficult for the company to reach last year's £2.3m pre-tax. At 70p, up 2p, the prospective yield is 10.5 per cent.

UKP extends benefits on Moneymax Plan

The United Kingdom Provident has extended the benefits provided on its successful Moneymax Plan by introducing a new income option. Its aim is to enable the investor to draw a tax-free income for life on the contract providing it has been in force at least 10 years.

The Moneymax Plan was introduced by UKP earlier this year to allow the investor to have the guarantees of a traditional with-profits endowment combined with the flexibility of a life assurance savings plan as marketed by the unit-linked life companies. This enables the investor to take tax-free capital sums at the end of the tenth year or to leave the capital to grow until required. Now the plan provides tax-free income.

The plan has obvious attractions to higher rate taxpayers seeking to minimise the tax liability on their investments.

H. Sykes first half profit almost halved at £575,000

ALTHOUGH sales were marginally higher at £10.42m against £10.24m, taxable profits of Henry Sykes, the pump, winching, pneumatic and marine equipment group, were almost halved from £1.01m to £575,000 for the half-year ended July 1, 1979.

A substantially stronger pound meant that the company lost much of its competitive edge overseas and as a consequence, earnings have fallen in these markets.

In addition, the company encountered technical problems during the early stages of the new range of Sykes super univac pumps, which the Board is satisfied have now been overcome.

Profitability was also affected by the initial trading losses incurred by the company's new U.S. subsidiary, Jaeger Sykes, which had been anticipated.

The board expresses deep concern at the impact on business of the national industrial action by the engineering unions. Continued strike action is bound to affect earnings and lead to a further loss of orders, it adds.

As to the future, the board is confident that decisions to new range of pumps and to expand overseas markets for the company's products were correct and will lead to success in 1980.

After-tax earnings per 25p share are shown halved at 3.7p (7.4p), but the interim dividend is maintained at 1.5p net—last year's total was 4p on £1.57m (£2.08m) profits.

Associates' contribution for the half-year increased from £56,000 to £125,000. Interest charge was up from £175,000 to £241,000 and tax took £282,000 (£375,000).

• comment

When Henry Sykes became the first (and only) stock traded by M. J. H. Nightingale to obtain a full listing, in December, 1977, shareholders must have expected more than the erosion of earnings which has proved their lot. The share price fell 5p to a new low of 60p yesterday on profits more than halved at the attributable level and amid signs that the group—badly hit by the engineering strike—will be lucky to make more than £1m pre-tax this year. Sykes has built up its overseas sales to almost half of the group total over the past few years and the combination of a strong pound and lower order levels in some foreign markets, notably the middle east, has taken a slice out of margins. Some of the first-half costs (start-up in the U.S. and teething troubles with the new pump) may not recur but increasing competition and stagnant construction activity do not augur well for the trading future. The new pump range will need to start performing well soon if Sykes is to merit its prospective fully-taxed p/e of 10.5—based on full-year profits of £1m. A maintained final dividend would produce a yield 9.8 per cent, which is some consolation.

DIVIDENDS ANNOUNCED

	Current payment	Date of payment	Corresponding div.	Total for year	Total last year
Albany Investment int.	[illegible]	Nov. 8	0.45	—	1.34
Black & Edgington int.	2.2	—	2.2	—	4.99
Horace Cory int.	0.6	Oct. 24	0.37	—	0.75
Federated Land int.	1	Nov. 16	0.8	—	2.73
Jos. Holt int.	†2	Oct. 2	1	—	3.62
J. B. Hldgs. int.	1.5	Jan. 7	0.5	—	1.47
Jentique	1.45	Dec. 4	1.29	2.48	2.21
Low & Bonar int.	¶5	—	4	—	12.16
Minerals & Resources	‡8	Nov. 9	8	12	12
Ransomes, Sims int.	3.14	Nov. 16	3	—	§9.87
Simon Engineering int.	4	Dec. 31	3	—	9.07
H. Sykes int.	1.5	Nov. 5	1.5	—	4
Tor Inv. Income	3.52	—	[illegible]	5.84	5.66
Utd. Biscuits int.	1.7	Jan. 7	1.5	—	3.01

Dividends shown pence per share net except where otherwise stated.

* Equivalent after allowing for scrip issue. † On capital increased by rights and/or acquisition issues. ‡ Gross throughout. § Includes additional 0.29p for 1978. ¶ Includes 0.3655p for 1978 after tax rate change. || U.S. cents throughout.

COWAN DE GROOT

At the annual meeting of Cowan de Groot, Mr. Derrick Cowan, chairman, said that "trading was satisfactory this year, and sales were up 25 per cent on the same time last year.

A number of possible acquisitions were being discussed.

Louis Newmark makes good start to current year

The current year at Louis Newmark has started well and given a reasonably stable national industrial scene, the steady progress of previous years will be maintained, Mr. G. L. Newmark, the chairman, says in his annual report.

Despite the difficult year in 1978-79, the board has pursued an aggressive policy of selection and application of new plant and machinery, improved general facilities and moved steadily into new fields with products based on modern technology.

In those factories engaged in precision machining of metals, directors have already introduced several types of sophisticated computer controlled machines as the introduction to the capital investment programme.

In metrology the group has made and continues to make considerable strides in the application of electronic gauging in both individual and system applications as inspection aids in many diverse industries. Directors are currently working on the use of micro-processors and new forms of display units for the next generation of instrumentation.

The group is also actively engaged in the development and the early manufacture of devices in the field of tension transducers and associated electronic controls aimed at requirements in industries such as mining and paper processing.

In aircraft controls, both helicopter and fixed wing, control systems for new aircraft are currently being developed among which is the new Westland WG30 helicopter making use of updated sensors and their allied electronics.

The component divisions are designing and developing components for applications which are directed towards the use of micro processors and to meet requirements in the computer, telecommunication, business machine and general professional instrument industries.

In addition they are engaged in meeting the needs of sophisticated defence systems and sub systems used by the armed services and organisations concerned with marine safety.

In the year ended March 31, 1979, profits before tax amounted to £1.98m against £2.13m, the last six months being adversely affected by industrial disputes.

Merchanting showed an increase over the previous year. The main contribution came from the improvement on the watch side and the chairman is pleased that the growth is being maintained in the current year.

Meeting, 143-149 Great Portland Street, W, October 16 at noon.

RIVER PLATE REPAYMENT

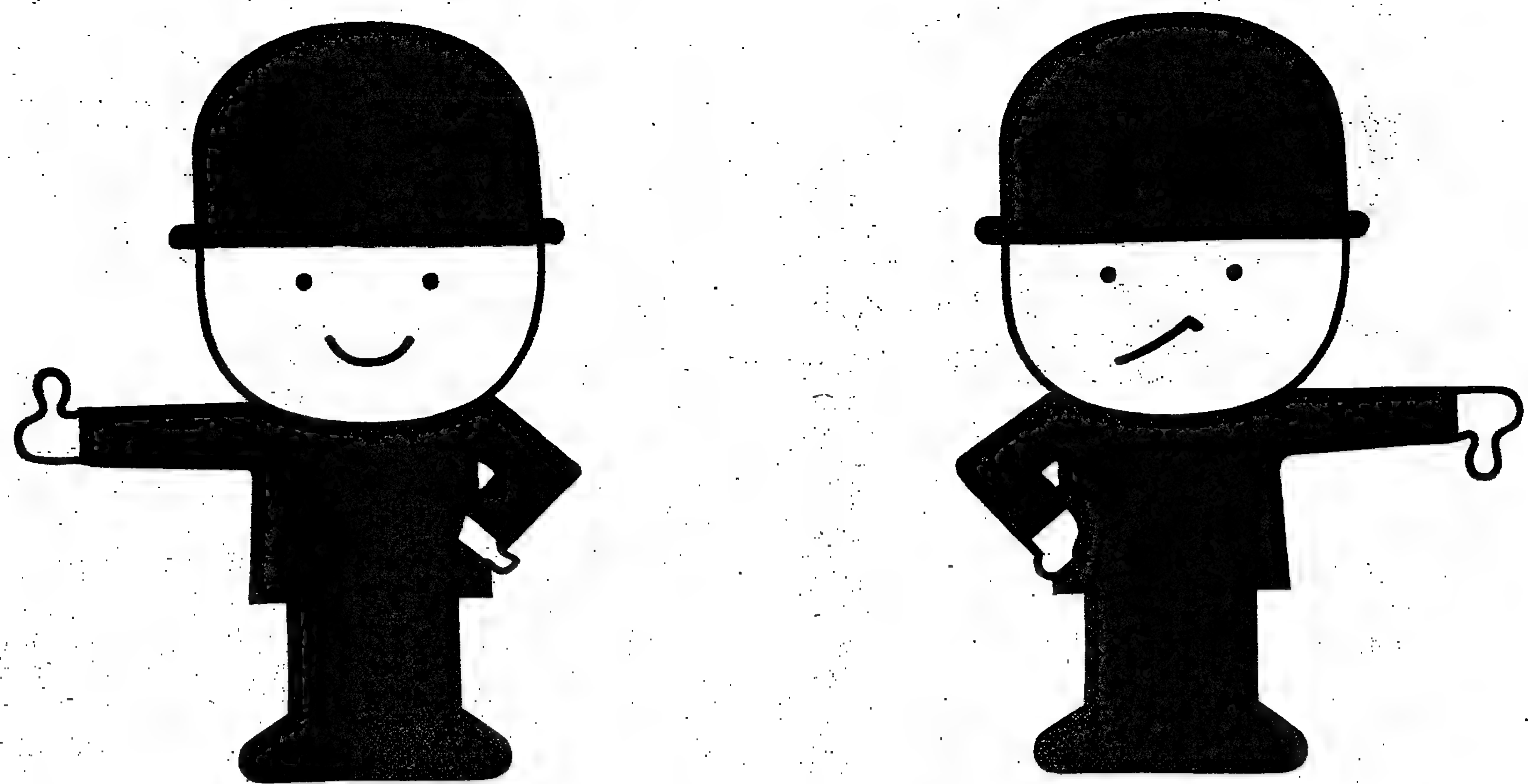
River Plate and General Investment Trust has recently repaid $500,000 of its $1m currency loan.

CENTREWAY

Mr. A. J. Cross, chairman of Centreway, told the annual meeting that some measure of progress in pre-tax profits for the current year was seen. But the engineering workers strikes have affected business in August and September at the important subsidiary S. J. and E. Fellows.

UNITECH

Unitech announce that of the 3,386,594 new ordinary shares offered by way of rights, 3,287,762 shares (97.1 per cent) were taken up.



SPILLERS or DALGETY?

Spillers have forecast profits for this year at around £15m and have a good base for future profits growth.

Spillers dividend is increased by 67% to 3.4p per share.

Spillers employees, board and customers are opposed to the offer.

Spillers have built up a highly successful range of branded products which includes such household names as Homepride, Slimcea, Winalot, Kennomeat, Spratts and Tyne Brand.

Dalgety have *not* forecast profits for this year. Their profits are uncertain and could well fall sharply.

Dalgety's shares would give a lower income — equivalent to 3.33p for each Spillers share.

Dalgety's own board was not even united in making the proposal.

Dalgety have very few branded goods.

Your Chairman's message is clear.
Ignore the offer. Do not sign any document sent by Dalgety.

The Directors of Spillers Limited have taken all reasonable care to ensure that the facts stated and the opinions expressed herein are fair and accurate and they jointly and severally accept responsibility accordingly.

MINING NEWS

'Bondy' spearheads A$20m uranium move in South Australia

BY KENNETH MARSTON, MINING EDITOR

LESS THAN 24 hours after the incoming Liberal-Country party Government in South Australia had promised to allow uranium mining within the state, the irrepressible entrepreneur, Mr. Alan Bond has spearheaded a A$20m (£10.3m) fresh move on South Australia's energy resources—this time uranium, reports James Forth from Sydney.

A group headed by Bond Corporation, and including Reef Oil, Basin Oil, Endeavour Resources and Leighton Mining has contracted to purchase 14 per cent of the capital of Oilmin, 17.5 per cent of Petromin and 8 per cent of Transoil, all of which are partners with Phelps Dodge of the U.S. in the Beverley uranium deposit.

Mr. Bond announced that it was intended to *limit the* purchase to a maximum of 25 per cent in each of the three companies. Preliminary discussions had been held with the chairman of the companies, Mr. C. W. Siller, who has a long association with the trio.

Mr. Bond said that Mr. Siller had been advised that the Bond group would be available to work with *them* "at the appropriate time." Mr. Siller could not be contacted last night for his reaction: he was reportedly celebrating a *sharp* rise in the market price of all three companies in response to the election result in South Australia.

Based on yesterday's closing prices, the Bond group has paid more than A$14m for its contracted purchases and would lay out A$20m if it reaches its 25 per cent target.

Beverley has estimated *reserves of 35m lbs of uranium* oxide with a good grade of 5.3 lbs a tonne, established in three separate deposits.

Phelps Dodge, which has a 50 per cent stake with the three local companies jointly owning the remaining 50 per cent, would *be responsible for providing* loan funds to mine and develop the deposits and to construct a processing plant on site.

Transoil-Oilmen-Petromin are also involved in applications for two leases in the oil and gas fields of Mereenie and Palm Valley in the Amadeus basin in central Australia, but problems in negotiations with the Aboriginal *Central Lands Council over* royalties has prevented any development.

Mr. Bond said last night that the move was in line with the group's current intention of investing in energy resources. The main attraction of the trio was the Beverley uranium deposits and the Mereenie fields. The latter venture was particularly attractive because of its close proximity to the Cooper basin natural gas and oil fields.

Mr. Bond attracted attention in August last year when a consortium, *substantially the same* as that which has invested in the Oilmin group, purchased the Burmah Oil group's stake in the major Cooper Basin partner, Santos, for A$36m.

Bond acquired 37.5 per cent of Santos, 30.86 per cent of Basin *Oil and 66.96 per cent of Reef Oil* in the deal.

The South Australian Government subsequently passed legis*lation restricting the maximum* holding in Santos to 15 per cent and the Bond group has been ordered to reduce its holding, *although it is challenging* the move through the courts.

The incoming Liberal-Country Party government has already stated that it will not undo the Santos legislation.

Along with the Oilmin moves it was also announced yesterday that Basin and Reef would call the balance of monies outstanding on all partly paid shares.

This *would involve* the Bond group in payments of A$2.39m to Reef and A$3.2m to Basin. The directors of the oil companies *said they were investigating the* possibility of making part of the call payment tax rebateable in the hands of shareholders.

Minorco pays the same

AN UNCHANGED final dividend of (U.S.) 8 cents (3.7p) to main*tain the total for the year to* June 30 at 12 cents, is declared by the Anglo American Corporation group's Bermuda-registered Minerals and Resources Corporation (Minorco).

Net profits of the investment company amount to $34.4m *(£18.1m) against $13.6m. But* it is pointed out that the respective annual results are not comparable because with effect *from July 1, 1978,* results of Zamanglo Industrial Corporation have not been consolidated owing to the fact that profits are not *freely* remittable from Zambia at the present time.

As a result of a merger between Inspiration Holdings and Inspiration Consolidated Copper, Minorco and Hudson Bay Mining and Smelting now equally own all of the common stock in Inspiration Consolidated Copper.

Minorco also states that it has recently negotiated a $50m multi-currency term loan over 10 years with a consortium of international banks. There is, however, no mention of the much-rumoured plans for a major reorganisation of the company. Minorco shares were 237p yesterday.

CSR still chasing Western Collieries

AUSTRALIA'S mining and industrial group, CSR has moved to the sharemarket to secure control of the Western Australian coal producer, Western Collieries following a rebuff of takeover talks initiated by CSR last month, reports James Forth.

The directors of Western Collieries at the weekend reported a doubling of profit to A$2.6m (£1.34m), or 31 cents a share, and a lift in dividend to 22.5 cents from 16.5 cents a share, and announced that talks with CSR on a possible bid had been "terminated."

It was also noted that CSR was considering its position. CSR already held 49.9 per cent of Western Collieries, obtained since 1974 through placements by the collier and by market purchases. At the time CSR announced it was holding takeover talks, Western Collieries were priced at A$4.50.

When the Collieries Board announced the termination of the talks, the price was up to A$5.20. Yesterday CSR entered the market and purchased the bulk of the 150,000 traded, mainly at A$5.74.

It is understood that CSR has placed an order through the broking firm. Potter Partners for 1m shares, or about 15 per cent of the capital, which would lift its stake to about 65 per cent.

Whim Creek rights issue

Australia's Whim Creek Consolidated, the "Down-Under" exploration arm of Canada's Northgate Exploration, yesterday announced a A$1.85m (£950,000) non-renounceable "rights" issue to shareholders of approximately 3.7m new ordinary shares of 20 cents each at a premium of 30 cents per share.

One new ordinary share is thus being offered at 50 cents (25.8p) for every three shares held on October 10, 1979. Yesterday the London price of Whim Creek was 70p.

The new shares are payable in full at 50 cents per share on acceptance which must not be later than November 9.

Northgate Exploration has indicated that it will take up its entitlement of 1,166,666 new shares.

However, Canada's Westfield Minerals, another member of the *Northgate group* and also a major holder of Whim Creek, has advised that it will not take up its entitlement of 833,333 new shares.

Westfield is taking this line on the understanding that the underwriters to the issue will place these shares within Australia and thereby partly fulfil the wishes of the Whim Creek board to increase the Australian content of the company.

Whim Creek gives no reason for the new issue. The company is actively involved in diamond exploration in the Kimberley region of Western Australia and has interests in various base-metal and gold prospects in that state.

Attock link-up with Metramar

BRITAIN'S Attock Petroleum is *to acquire a 10 per cent interest* in Australia's Metramar Minerals by taking 1.1m of the former's ordinary shares at par (20 cents).

Attock will also have options over 305,000 Metramar shares at a cost of 1 cent per option, these being exerciseable at 20 cents per share up to June 30, 1982.

It will be recalled that South Africa's Anglo American Corporation giant joined Metramar in 1972 as a *major partner* in the latter's ill-fated Blue Spec mine at Nullagine in Western Australia. Blue Spec began life *as an antimony-gold prospect,* then became regarded as a gold-antimony hope and ended up as a poor "spec" for all concerned.

Attock, however, is interested in Metramar's oil and gas exploration. Lord Torrington, managing director of Attock said: "*Any involvement* in oil exploration in Australia makes it essential to have local partners. We look forward to creating a *successful* and *profitable* relationship with Metramar."

Metramar has a 20 per cent stake in a Bass Strait exploration permit and has interests in consortia with farm-in arrangements in the Surat and Georgina Basins in Queensland. Metramar *shares were around* 11½p yesterday.

Silvermines is doing well

IRELAND'S Silvermines continues its strong recovery with a net profit for the half-year to June 30 of Irish £335,218 compared with £136,225 in the same period of 1978 when the year's total, after allowing for second-half losses, was only £29,859.

Earnings for the latest period amount to 3.98p per share and an interim dividend is declared of 1p. For 1978 there was an *interim of 0.5p and a final of* 1p.

The performance of the Anglian Windows subsidiary re*mains strong,* while the 25 per cent-owned Mogul of Ireland lead-zinc mine has provided a profit share of £252,152 against a loss a year ago of £37,134. However, because of lower metal prices, the mine is expected to operate at a lower profit for the rest of this year.

UK COMPANY NEWS

BIDS AND DEALS

Spillers/Dalgety—the arguments still rage

BY RAY MAUGHAN

FIRING ONE of the last salvoes before its £70m share offer for Spillers first closes on Friday, Dalgety has attempted to dismantle the income argument for rejecting the bid.

Dalgety concedes that shareholders would receive a 2 per cent higher dividend by staying with Spillers as the situation stands, but the bidder states that it "intends to continue a progressive dividend policy," pointing out that its dividends have risen by 63 per cent since 1975, after allowing for inflation as measured by the retail price index.

In a document posted to Spillers' shareholders yesterday, Dalgety doubts whether the defender would increase its own distribution next year "in view of the heavy capital expenditure programme the Spillers Board has announced and the forecast decline in profits of Spillers' continuing activities."

The bidder ponts out that, in view of a forecast profit of "around" £15m for the current period, Spillers' profits "are lower than the profits earned four years ago." At that point, Spillers made £18.4m from continuing activities.

The document stresses once again the "substantial growth of Dalgety's businesses overseas" and points out that "in the four years since 1974-75 earnings per share and dividends of the Dalgety Group have increased nearly threefold."

Dalgety states that it has "substantial and profitable business in the UK" and confirms its intention that the "successful formula" of development of its existing businesses, acquisition of new businesses and their integration into an efficient and effective whole, "should once again be applied following the merger with Spillers."

"We have been planning a major UK expansion for Dalgety for a considerable time," the document adds, "We have the organisation and resources to maximose the very real abilities of Spillers' operating management. We have every intention of maintaining and developing Spillers' business."

Major institutional shareholders, have been told by the Takeover Panel last week that they may not seek a collective meeting with Dadgety through a special committee set up by the National Association of Pension Funds, have been meeting on an individual basis with the bidder's chairman, Mr. David Donne, and other members of the board.

Dalgety's shareholders meet next Monday to approve the bid and Mr. Gordon Burwood, chairman of the committee, had talks with Dalgety last Thursday.

In a statement last night, Spillers said that the Dadgety letter was highly misleading, and again urged shareholders to ignore the offer. It claimed that Dalgety's management had "hopelessly inadequate experience" of the UK food industry, and that Spillers was poised for growth.

The purpose of Spillers' capital spending programme was to increase profits, the statement concluded. Dividends should follow suit.

See Lex

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether dividends are interims or finals and the sub-divisions shown below are based mainly on last year's timetable.

TODAY

Interims:—Aurora, Bank of Scotland, Bodycote International, Corinthian Holdings, Ibstock Johnsen, Inveresk, Law Land, Bernard Matthews, Rolls-Royce Motors, Rosedimond Investment Trust, Royco, Willis Faber.

Finals:—Elder Smith Goldsbrough Mort, Mills and Allen International, Ricardo Consulting Engineers, George H. Scholes, Zetters.

FUTURE DATES

Interims:—	
Alva Investment Trust	Sep. 27
Barr and Wallace Arnold Trust	Oct. 9
Brent Chemicals	Sep. 26
E.C. Cases	Sep. 21
Hall Engineering	Sep. 21
Legal and General	Sep. 19
Liverpool Daily Post and Echo	Sep. 20
London and Manchester Assur.	Sep. 19
Menzies (John)	†Oct. 10
Metalrax	Sep. 24
Oil Exploration	Sep. 19
Owen Owen	Sep. 27
Ready Mixed Concrete	Sep. 27
Rotork	Sep. 26
Silkolene Lubricants	Oct. 1
Sumner (Francis)	Sep. 27
Tilbury Contracting	Sep. 19
UDS	Sep. 19
Finals:—	
Barlow Holdings	Sep. 26
Chambers and Fargus	Sep. 24
Goodman Bros. and Stockman	Sep. 21
Lydenburg Platinum	Sep. 25
Parker Knoll	Sep. 24
Scottish Metropolitan Property	Oct. 8
Wankie Colliery	Sep. 26

†Amended.

Fisons Australian acquisitions

Fisons has acquired Tosco of Melbourne and Townson and Mercer (Distributors) Pty of Sydney, which have a combined turnover of some A$10m (£5.2m).

They supply scientific instruments, chemicals and appartus, holding a number of important agencies for Australia; and have branch offices, service and distribution centres in all States.

The acquisitions are the first stage of Fisons' plan to expand its scientific equipment interests in South East Asia and Australasia.

STEWART WRIGHTSON

As a result of exercising conversion rights on £2.77m of Stewart Wrightson Holdings 7½ per cent unsecured loan stock, S. G. Warburg and Co. is now beneficial owner of 5.53m Stewart Wrightson shares (30.49 per cent registered in the name of Mercury Securities.

CAKEBREAD ROBEY

Clark Hunt, a subsidiary of Cakebread Robey, has signed conditional contract for the possible sale of houses and freehold land to Fairview Estates (Investments) for £250,000.

SGB PURCHASE

SGB Group has acquired assets of the formwork division of N. F. Brooker (Pty), Sydney based subsidiary of Acquila Steel Company, for A$2.1m (£1.08m).

This doubles the size of the company's operations in Australia.

CLUFF EXPANDS INTEREST IN GRAIG SHIPPING

Cluff Oil now holds 45,670 ordinary shares (11.4 per cent) and 19,410 "A" ordinary shares (19.4 per cent) in Graig Shipping. On September 13 Outwich Investment Trust disposed of its holding of 25,000 ordinary and 10,000 "A."

Cluff states it bought the Graig shares as an indirect way of obtaining an interest in onshore oil and gas exploration in the South of England.

BRENTNALL BEARD

Shareholders of Brentnall Beard (Holdings), the insurance broker, have approved the sale of business and certain assets of Brentnall Beard and Co., a wholly owned subsidiary, to Hogg Robinson and Gardner Mountain.

SHARE STAKES

Associated Dairies Group: Mr. D. Baddiley, director, disposed of 40,000 ordinary shares thereby reducing holding to 90,604 (0.076 per cent).

Five Oaks Investments: Mr. J. R. Waldron, director, acquired 70,000 ordinary shares on September 9.

Carlton Industries: Mr. L. Roydon, director, disposed of 80,000 ordinary shares reducing his interest to 1,657,656 (6.26 per cent).

Comet Radiovision Services: Mr. W. J. Mason, director, disposed of 30,000 ordinary shares reducing holding to 219,000 (0.81 per cent).

Goodyear Tire expects third quarter loss

AKRON — Goodyear Tire and Rubber will report a loss for the third quarter because of provisions for the planned closure of two of its oldest plants, and the depressed car tire market.

In the 1978 third quarter, the company earned 62 cents a share. In the first half of 1979, it earned $1.40 a share.

In August, Goodyear announced plans to phase out operations at its Los Angeles tyre plant and a subsidiary tyre plant in Conshohocken, Pennsylvania, over the ensuing six months to adjust capacities to the declining bias tyre market.

It said that the third quarter results will include the provision covering the closing of these plants, but did not give any estimates of what the provision will be.

Mr. Charles J. Pilliod, Jr., chairman of Goodyear said earnings for the third quarter were also affected by a five week strike by the United Auto Workers union against the corporation's aerospace facility in Akron.

"Despite the easing of the gasoline situation in recent months, motorists continued to be concerned about the price of gaseline and the supply uncertainties," Mr. Pilliod said, adding that this has been reflected in renewal tyre purchases.

He said that the decline in sales and productions of new cars, stemming from the manufacturers' inability to supply the small cars which are in demand, has also effected the sales of original equipment tyres.

Reuter

SEC options moratorium

WASHINGTON—SEC officials said the securities industry is making progress on options rules sought by the Commission, but the SEC's options moratorium will probably continue to the end of this year.

Earlier this year, Mr. Harold Williams, the SEC chairman indicated that the moratorium on the expansion of options trading could be lifted by August.

Mr. Williams today acknowledged that the agency had missed the August deadline but said that prospects for ending the moratorium remain good.

The estimate of Commission action on the moratorium by year end was offered by Mr. Douglas Scarff, an official in the SEC's division of market regulations. He said that the stock exchanges are currently seeking to develop rules governing options sales practices as well as develop improved procedures for policing options trading.

AP-DJ

Simon Eng. first half profit and turnover up

FROM TURNOVER of £133.97m against £109.34m, profits before tax of Simon Engineering improved from £6.31m to £7.25m in the first six months of 1979 and the directors are lifting the interim dividend by 1p to 4p per share.

Last year, a total dividend of 9.0652p was paid from pre-tax profits of £16.61m.

The directors say that although the group did not reach the very high level of orders in the first half that were achieved in 1978, the spread of activities stands the group in good stead and reasonable growth is still expected this year.

Main activities of the group include specialised machinery, process plant contracting, merchanting and storage.

	Six months 1979 £000	Six months 1978 £000
Turnover	133,973	109,344
Trading profit	6,352	5,584
Associates profigts	228	281
Interest	672	495
Profit before tax	7,252	6,310
Tax	3,191	2,686
Net profit	4,061	3,624
Minorities	276	230
Attributable	3,785	3,394
Preference dividends	19	19
Ordinary—interim	994	821

● comment

A warning that Simon's first half orders were down on 1978 levels might, when coupled with the effects of the engineering strike, signal a profit shortfall this year. But, with the exception of the process plant contracting division which enjoyed remarkably buoyant conditions last year, the group is ahead of 1978 so far even if orders have fallen behind budget. The upshot is a near 15 per cent pre-tax improvement on a 22 per cent rise in interim turnover and that takes in little or nothing from acquisitions. Unichem was only acquired last March, Krause is too small to be significant, Allen and Garcia is breaking even and the UK end of Gordon Johnson Stephens is still proving troublesome. The merchanting and storage division is expected to make further progress in the second half and, for the time being, the process plant contracting operations are unaffected by the engineering dispute. The proceeds from the May rights issue will boost interest receivable and Simon may be on course for £17m before tax in 1979—given the usual second half bias—which would indicate a p/e of 8.6 at 260p, up 3p yesterday. The yield on the promised dividend is 6.3 per cent—that looks about right.

Amalgamated Industrials profit increase

Pre-tax profits of Amalgamated Industrials increased from £1.28m to £1.45m for 1978 on turnover of £13.65m against £13.08m.

At halfway the group, wholly-owned by Seton Trust, had advanced from £782,000 to £810,000.

Pre-tax figure for the year was struck after development expenditure of £297,000, compared with £370,000, and was before tax of £1.22m (£887,000).

The attributable balance came through at £292,000 (£224,000) after an extraordinary credit of £122,000 (£133,000 debit), and minorities.

Car Care group linked with Lloyd's

Leading mechanical breakdown insurance specialist, the Car Care Plan Group, announces that it has linked up with Lloyd's of London for the underwriting of its various mechanical breakdown insurance contracts.

At the same time, the group has extended its cover to fleet-owned cars, including those operated by leasing companies, an area that until now has been excluded from most sources of extended-warranty protection.

Car Care Plan offers insurance cover to fill in the gaps left by the motor manufacturers in the warranties provided against mechanical breakdown in cars. The company has extended this to breakdown cover beyond the period covered by the manufacturer.

This insurance is now available for every sector of the new and used car market from the year-old company limousine to the high-mileage family car changing hands after many years.

The mechanical breakdown insurance provided by the group will pay up to £350 per claim for parts and labour, plus up to £70 for car hire and £30 for towing-in. The premium charged for this cover is £47.50 per car and applies irrespective of the number of cars included in one contract.

Radio Rentals moves ahead to £35.68m

Profits before tax of Radio Rentals (Holdings), a subsidiary of Thorn Electrical Industries, moved ahead from £31.23m to £35.68m for the year ended March 31, 1979, with £18.86m against £16.83m coming in the first six months.

Turnover for the year rose by some £17m to £140.94m. Profits were after depreciation charge down £3m at £5.58m and hire of TV sets from immediate parent company of £28.08m (£22.55m).

After tax of £17.27m against £14.93m, net profits were up from £16.3m to £18.41m.

The group is engaged in renting and selling television and radio sets and the distribution of radio and television programmes by wire.

Ransomes Sims slips midway and gives warning on year-end

INCLUDING A £199,000 loss for the period from Dorman Sprayer, taxable profits of Ransomes, Sims and Jefferies, machinery manufacturer, fell slightly from £1.27m to £1.19m for the first half of 1979. Turnover rose £2.47m to £19.75m.

And the directors say that the effect of the current national engineering dispute, together with the strengthening pound's effect on exports, and on imports by competitors, has been seriously to erode their expectation of improved profits for the full year.

Surplus for the whole of 1978 was £2.57m (£2 25m).

Half-yearly earnings per £1 share are sown as 17.4p (18.5p), and the interim dividend is raised to 3.14p (3p) net.

Also announced is an additional payment of 0.29p for 1978, on the reduction in ACT, which boosts that year's total to 9.87p.

Despite the loss at Dorman, the directors say that sales and profits of the group would have been materially higher had it not been for strike action earlier in the year at domestic level, which has now been resolved.

Sales of professional grass-cutting machinery, which accounts for 50 per cent of group turnover, have been limited primarily by the company's inability to achieve planned production levels.

Action is being taken, the directors state, to increase output in those companies where demand continues at a high level. However, in certain others, production is being cut back to balance stocks.

In order to maintain profit margins, steps have been taken but the full effects of this action to materially reduce overheads, will not be apparent until 1980, they say.

Six months tax takes £240,000 against £260,000 leaving net profits down from £1m to £948,000.

There was an extraordinary credit of £35,000 for the period, compared with a £60,000 debit.

	Half year 1979 £,000	Half year 1978 £,000
Sales	19,752	17,278
Pre-tax profit	1,188	1,269
Tax	240	260
Net profit	948	1,009
Extraord. credit	35	†60

† Debit.

At the time of the Dorman acquisition the directors were aware that the company was not operating on a profitable basis, but recognised it was an important area of activity in which the group should be engaged.

They say the period since acquisition has coincided with a time of lower demand for farm machinery, however they are satisfied that the action which has been taken since acquisition—to develop new products, to rationalise production facilities and to reduce overheads—will ensure a satisfactory future for this company.

On September 7 the group acquired 16 per cent of the shares of Wisconsin Marine giving it a total holding of just over 50 per cent.

Ransome's intends to acquire, in equal instalments, the balance up to 98 per cent over the next three years.

● comment

Ransomes, Sims and Jeffries will have to run very hard to maintain profits this year. Caught in the cleft stick of insufficient production in the areas where it can sell freely and facing high stock levels in markets which have weakened, the group has been jammed further up the fork by adverse exchange rates and, more recently, by the engineering strike. To add to all of this, Dorman Sprayer has suffered hefty first-half losses and group profits have fallen by almost 5 per cent. Interim turnover improved by over 14 per cent but both sales and trading profits would have been "materially higher" had it not been for an internal industrial dispute earlier in the year. At this point, it is difficult to determine just what the domestic dispute cost and how badly RSJ will be affected by the national strike. The acquisition of Dorman presumably argues for some capacity rationalisation in the farm machinery division which, in 1978, was principally responsible for a 31 per cent rise in monetary stock values. Action, so far unspecified, has been taken to cut overhead costs but the full benefits are not expected until next year. The shares, having been trading near the annual low, fell further yesterday by 5p to 138p. All that might reasonably be said at this stage is that the historic yield of 10.3 per cent accounts for many of the problems the group now faces, as does a minimum fully taxed historic p/e of 6.1, although the correction may have further to go.

Federated Land up to £0.47m but borrowings are rising

TAXABLE PROFITS of Federated Land and Building Company rose from £420,000 to £471,000 in the first half of 1979, after sharply higher interest of £735,000 against £378,000. Net rents from investment properties jumped from £54,000 to £398,000.

Mr. James Meyer, chairman, says that, with the company actively increasing its long-term investment in commercial developments, its borrowings are rising. This, together with higher interest rates, will substantially increase the interest to be written-off.

This will have a sizeable impact on the second-half profit, he adds. But the directors hope the surplus for the next half will not be lower than that achieved in the first six months. For the whole of 1978, taxable profits were £923,000.

For the half-year there is an exceptional credit of £77,000, representing the suplus on sale of land less tax. The sharply lower tax charge of £81,000 (£228,000) is after crediting £175,000 for first-year allowances on plant and fittings installed in an investment property.

The extraordinary credits of £2.16m have been transferred to general reserves. These comprise a £1.71m provision for deferred tax no longer required; and a £449,000 net surplus on disposal of the company's interest in three of its smaller commercial developments.

The chairman says that these additions to general reserves allow the directors to feel confident that when the revaluation of the company's commercial developments is carried out during the next six months, it will reveal that the net asset value will exceed £13m.

The net interim dividend is stepped up from 0.8p to 1p—last year's total was 2.78p. Earnings per 25p share are shown to have risen from 1.8p to 4.4p.

Commenting on commercial developments, the chairman says this year sees the completion of the Out-of-Town Shopping Centre in Kent, which is trading successfully. The company has started the development of the new Central Shopping Area for Leatherhead, which it hopes to complete in two-and-a-half years. Construction is expected to start next year of the Town Centre Shopping Scheme for Hanley.

The chairman says that while the policy to reduce the dependence of house building for profits is being carried out, the company is committed to building houses as part of its overall long-term strategy for continuing growth. The company has land stocks for at least six years' development and in seeking further sites in selected locations.

	Half-year 1979 £000	Half-year 1978 £000
Turnover	6,677	5,720
Trading profit	808	744
Invest. property rents	398	54
Interest	735	378
Profit before tax	471	420
Exceptional credit	77	—
Tax	81	228
Net profit	457	192
Dividends	106	84
Retained	361	108

RESULTS AND ACCOUNTS IN BRIEF

ALBANY INVESTMENT TRUST—Gross revenue half year ended August 31, 1979, £83,091 (£67,520). Interim dividend 0.55p (0.45p). Asset value 43.36p (42.37p at February 28).

ANGLO AMERICAN CORPORATION—Coal division sales output for August (figures in metric tons). Republic of South Africa: Bituminous: Anglo American Coal Corpn. 2,897,028. Other Collieries: Vierfontein 132,460; Zululand Natal 31,087. Anthracite: Natal Anthracite 97,401. Total RSA 3,157,956. Rhodesia: Wankie Colliery (coal) 183,652; (coke) 22,942. Swaziland: Swaziland Collieries 3,080. Botswana: Morupule Colliery 31,938: Group total 3,399,578.

BISICHI JANTAR—July outputs: Tin 16.35 tonnes, columbite 24.54 tonnes. Seven months to date: Tin 166.90 tonnes, columbite 218.39 tonnes. Seven months to end-July, 1978: Tin 220.28 tonnes; columbite 215.77 tonnes.

EL ORO MINING AND EXPLORATION COMPANY—Profits for six months ended June 30, 1979, £150,501 (£156,570), before tax £67,154 (£72,077). Group assets, taking investments at market value, £5.22m (£4.59m at year-end). Interim dividend 1.4p (1.05p) net—no further payment will be recommended.

S. HOFFNUNG AND CO. (merchanting, retailing, manufacturing)—Results for year ended March 31, 1979, reported August 23. Group fixed assets £12.1m (£13.52m). Net current assets £14.41m (£15.79m). Meeting, Great Eastern Hotel, EC, October 8, 12.15 pm.

TOR INVESTMENT TRUST—Total revenue year ended July 31, 1979, £844,310 (£576,155). After tax £171,970 (£155,089) net profit £314,702 (£274,895). Final dividend 3.5175p (5.5625p) on income shares, dividend 0.5825p on capital shares—total dividends absorb £279,790 (£237,353). Net asset value 59.4p (59.39p) per income share, and 239.06p (250p) per capital share.

WHITWORTH ELECTRIC (HOLDINGS—Turnover for year to March 31, 1979, £10,577,298. Net profit £180,821 after all charges and tax of £205,876. Earnings per share 4.58p. Dividend 21 per cent. Pay December 17.

Jentique rises to £573,000

TAXABLE PROFITS of Jentique (Holdings), furniture and clock maker, improved from £245,564 to £280,198 in the second six months ended June 30, 1979, giving a full year figure up from £403,764 to £573,158. Turnover rose by £2.83m to £11.9m.

The directors state that improved business is expected towards the Christmas period, but the scale is difficult to quantify.

They add that trading conditions will remain very competitive, but they are confident that the products of both manufacturing subsidiaries, backed by substantial current investments, will maintain their market share.

Tax takes £169,786 (£103,718) and earnings per 25p share are shown ahead by 1.3p to 5.1p. A final dividend of 1.45p raises the total payment from 2.209p to 2.47995p net.

Comparatives have been restated to take account of changes in accounting policies.

English and Scottish rises

Revenue at English and Scottish Investors was £60,248 higher at £231,704 for the half-year to July 31, 1979, after tax of £136,071, against £144,978.

Stated earnings per 25p share improved to 1.31p (1.01p) and the net asset value at half-time reached 103.9p (98.9p). A net interim dividend of 1p (0.6p) has already been declared.

Gross revenue was up from £666,285 to £787,358.

Jos. Holt rises to £444,810

PRE-TAX profits of Joseph Holt, the Manchester-based brewer and wine and spirit merchant, increased from £38,901 to £444,810 in the first half of 1979. For the whole of last year, the surplus reached a record £802,505.

After tax for the half-year of £231,300, against £197,000, net profit came through ahead from £181,901 to £213,510.

The interim dividend is doubled to 2p gross—last year's total payment was 3.62358p gross.

Bad winter and start-up costs hit J. B. Hldgs.

PROFITS BEFORE tax of J. B. Holdings, the construction and mechanical engineering group, fell from £957,000 to £864,000 in the first half of 1979. Turnover was higher at £13.53m, against £10.33m.

The directors say the profit reflects the bad winter which hit the results of the civil engineering, road maintenance and civil engineering supplies companies. In addition, the results include the starting up costs related to the group's investment in factories to produce concrete and Armafio glass reinforced resin pipes in Jordan. Both these ventures are now operating profitably with good order prospects.

Order books are currently satisfactory, they say. The civil engineering company has obtained two further contracts overseas and is securing a greater value of work in the UK. The road surfacing and roadstone companies have good order books and should have successful results over the year.

The group has recently received two significant overseas contracts for Armafio pipes, and the engineering companies continue to achieve a good level of orders from home and overseas markets.

The net interim dividend is hoisted to 1.5p (0.5p) per 10p share. The directors say a decision on the final will be made in the light of the year's results. Last year's total payment was 1.47p, paid from taxable profits of £2.81m (£2.7m).

After tax for the half-year of £449,000 (£497,000), net profit came through at £415,000, compared with £460,000. Earnings per share are given as 3.65p, against 4.31p.

NORTH AMERICAN NEWS

Chemical plant plan by Petrofina

By Our Montreal Correspondent

PETROFINA CANADA, 72 per cent owned by Petrofina S.A. of Belgium, is considering construction of a C$15m (US$12.96m) polystyrene plant next to is Montreal refinery. It would have a capacity of 35,000 metric tons a year and be operated by a Canadian subsidiary, Finachem Canada, which is 51 per cent owned by Petrofina Canada and 49 per cent by a U.S. unit of the parent Belgian group. Petrofina Canada expects to double its earnings to about C$5.25 a share for 1979 from C$2.37 in 1978. Operating revenues will be about C$725m

AP-DJ adds: Mr. Pierre Nadeau, chairman of Petrofina Canada, said that analysts' estimates that the company will earn about C$5.25 a share this year—or more than double the $23.7m in 1978 are "conservative."

"Unless the roof falls in, we'll make that target easily," he said. He also indicated that operation revenues will climb to about C$725m from C$591m last year.

In the first half of this year, Petrofina Canada's net was C$31.4m or C$3.13 a share on revenue of C$365m—a jump from the C$8.3m or 83 cents on revenues of C$286m in the year-ago period.

Elaborating on the Montreal-based integrated oil company's recently reported acquisition of a 5 per cent interest in the syncrude oil sands project, Mr. Nadeau said that the C$185m acquisition from Alberta Energy "doesn't at the moment change our interest in the Alsands project" in which Petrofina Canada holds an 8 per cent interest.

Quebec refuses aid for closed ITT Rayonier mill

BY ROBERT GIBBENS IN MONTREAL

THE QUEBEC Government has declared that it will not go to the aid of Rayonier Quebec whose mill at Port Cartier, 650 miles north-east of Montreal, has been shut down because of heavy operating losses and a strike which has lasted since the beginning of June.

Rayonier Quebec is wholly-owned by ITT Rayonier of the U.S. The mill, plus woodlands development, cost nearly C$400m, and was opened in 1974. Because of labour and technical problems, plus poor market conditions for dissolving pulp (used in rayon production mainly) in the early stages, the operation has accumulated losses of around C$300m.

The Federal and Quebec Governments together have a direct investment of about C$40m in the mill, and the Quebec Government, through its own forestry development company, Rexfor, has about C$20m in equipment leased to the mill on which repayment does not start until 1998.

The Canadian paperworkers' union has called the shutdown "blackmail" and has urged the company to re-open contract talks with the union covering the mill workers. About 1,300 work in the mill and woodlands. The union also urged the Quebec Government to consider taking over control of the mill.

However, Mr. Yves Berube, the Lands and Forests Minister, said the shutdown was a "business decision" by ITT Rayonier and the Government will not consider a takeover or special help. The Port Cartier mill was a project promoted by the previous Liberal Government in 1971 and supported by the Federal Government to provide more jobs and economic activity in the north shore area of the lower St. Lawrence.

24 carton makers pay $200m to settle case

By Our Financial Staff

TWENTY-FOUR OF the largest US carton making companies have agreed to pay more than $200m in settlement of a longstanding anti-trust case.

One of the companies, Brown of Pasadena, yesterday reported that it had paid $5.16m to cover its share of the settlement. The payment, however, is not included in the company's year-end operating net of $22.3m, which compares with $6.5m in the previous year.

Sales last year were just over 16 per cent higher at $573m. Earnings per share work out at $3.12 against 91 cents in 1977-78.

In approving the anti-trust settlement, two District Court judges said that customers of the folding carton companies would receive damages from a fund of $200m plus more than $10m accrued interest.

The case began in 1976 when the manufacturers were accused of conspiring to fix prices. Civil damage suits were preceded by Government indictments against 21 of the 24 companies.

The 24 companies involved in the settlement have consistently denied any wrongdoing, but said they had agreed to the terms to avoid further legal expense.

A court statement said that there had been overcharging over 14 years and that 2,300 claims had been filed against the manufacturers.

Deere to lift spending abroad

BY OUR FINANCIAL STAFF

DEERE AND CO., the farm equipment group, said it will spend $350m on new overseas facilities over the next five years, more than double the $160m spent in the five-year period ending October 31.

The company made the announcemet in a statement marking the introduction of a new line of German-built tractors. It said the nine nine tractor models, ranging from 35 to 100 hp, represent an investment of $40m and are the foundation of its overseas marketing strategy.

The decision comes at a time when retail farm equipment sales outside the U.S. are being hit by a drop in demand and rising costs. A month ago the company announced that foreign operations turned in losses totalling $12m in the three months to July 30, restricting overall group profit growth to 16½ per cent.

Group net earnings in the three months was $96.97m compared with $83.06m for the same period in 1978. It took net earnings for the first nine months of the latest year to $271m, or $4.47 a share, some 23 per cent above last year's corresponding figure.

Deere said the funds would be used to expand tractor capacity at the Mannheim, Germany, facility by 25 per cent, to build a new components factory at Bruchsal in Germany, to increase tractor capacity by 20 per cent at Getafe, Spain, and to expand capacity by more than 15 per cent at its engine factory in Saran, France.

Deere has completed construction of a new combine assembly plant in Zweibrucken, Germany and a tractor factory in Venezuela is nearly completion with initial production expected in early 1980. It said the Bruchsal depot will cost about $25m.

Rejection for IBM request

NEW YORK—The Federal Appeals Court has denied a request by International Business Machines Corporation for a temporary stay in an anti-trust case brought against it by the Justice Department.

The court denied the request pending its decision on a motion by IBM to remove Judge David Edelstein, who is presiding over the mammoth anti-trust case in Federal District Court.

IBM has filed a motion with the Appeals Court, stating in Court papers that it wants Edelstein removed for allegedly showing bias and prejudice towards the company.

Reuter

Judge dismisses FTC charge against Du Pont

BY OUR FINANCIAL STAFF

A FEDERAL Trade Commission allegation that the Du Pont chemical company had monopolised an important sector of the pigments market was dismissed yesterday.

An administrative law judge for the Commission ruled that the company's activity in the $600m a year titanium dioxide pigment market was not "unfair within the meaning of the Federal Trade Commission Act."

Du Pont, according to the original Commission allegation, accounts for over 40 per cent of the U.S. production of titanium dioxide. The substance is used as a brightening agent for paint, plastics and certain fibres.

Du Pont was accused in April of using its pricing mechanism for the product in such a way that smaller domestic producers and foreign competitors were discouraged from operating in the U.S. market.

The Commission said yesterday that an appeal to the full Commission was possible.

EUROBONDS

First Eurodollar placing by U.S. loan association

BY FRANCIS GHILES

CALIFORNIA FEDERAL Savings and Loan Association has arranged what is believed to be the first private placement of unsecured certificates of deposit in the Eurodollar market by a U.S. savings and loan association.

ment, arranged through S. G. Warburg and Paribas, with the assistance of Warburg Paribas Becker of New York, have not been disclosed but are understood to be identical to those which the borrower would have paid had it raised money in the New York market (between 10.75 and 11.25 per cent). The maturity of the CDs is longer than one year.

The borrower is the fourth largest savings and loan association in the U.S. but the largest federally chartered one. Its placement suggests that a market exists in Europe both for secured and unsecured CDs for such borrowers. Were this funding operation to be followed by others, it would signify an alternative source of finance for U.S. savings and loan associations, which to date have raised funds domestically.

Last July, the Federal Home Loan board, which supervises the savings and loan associations, put forward proposals which, if adopted, would allow the associations to raise funds in the Eurodollar market, securing the borrowings with mortgage holdings. The completion of this first operation suggests, however, that the larger U.S. associations could raise funds in the Eurodollar market on an unsecured basis.

DM bonds in demand

By Our Euromarkets Staff

DEMAND for foreign Deutschemark denominated bonds continues to be strong: four new D-mark denominated foreign bonds are currently being arranged, three as private placements.

The Brazilian State oil company, Petrobras, is arranging a DM 125m public issue of 10-year bonds through Westdeutsche Landesbank. The borrower is paying a coupon of 8 per cent and the issue has an average life of eight years.

Deutsche Bank, meanwhile, is arranging three private placements for European borrowers. Two are for Eurofima, the European railway stock financing company: a DM 100m five-year bullet with a final coupon of 7 per cent and a price of 99½ and a DM 40m eight-year bullet issue with a final coupon of 7⅜ per cent and a price of par.

The same bank has completed a DM 50m issue with an eight-year bullet maturity for the Luxembourg steel company, Arbed. The borrower is paying a coupon of 7½ per cent. The issue has been priced at 100¼.

The secondary market in foreign D-mark bonds remains very quiet with no real movement in prices and little trading. The German Capital Markets Sub-Committee will meet next Thursday to decide the calendar of new D-mark foreign bond issues for the coming month.

In the straight dollar bond sector prices were mixed yesterday in quiet trading. Although the volume of trading in the floating rate note (FRN) sector was thin, according to dealers, prices remained steady. A $100m FRN issue for the Philippines is expected this week: indicated terms will include a maturity of seven years and a coupon set at ¼ per cent over the six month Libor rate.

The volume of Japanese convertibles in the Swiss franc sector of the market will decline in the next quarter if the schedule of new issues released by the Finance Ministry in Tokyo is a reliable guide.

MEASUREX

Planning the second decade

BY ART GARCIA IN SANTA BARBARA

IT SEEMS appropriate that the address of Measurex Corporation's headquarters near San Jose, south of San Francisco, is One Results Way. Since its founding in 1968, the manufacturer of computer-based process control systems has provided first the promise, then the results that have led to a large following among technology analysts on Wall Street and institutional investors. Measurex has persistently ranked among the top companies picked by analysts as small concerns considered to be emerging big winners.

As Measurex enters its second decade, the faith of analysts and investors has been justified. The company capped its first 10 years with record profits, revenues, incoming orders, and backlog in the fiscal year ended last November 30. A repeat of record highs in the 1979 fiscal year seems assured. Measurex shuns making forecasts but finds no quarrel with Wall Street estimates of earnings this year between $3.10 and $3.50 a share. "We do not make projections, but if those estimates were way out of line, we would be making some noises," says Mr. Robert Dahl, senior vice president-finance. Measurex has been notably quiet.

To put the outside predictions into prespective, bear in mind that Measurex in fiscal 1978 earned $8.8m, a 64 per cent gain over the previous year and equal to $2.60 per share, which was a 58 per cent increase. Revenues climbed 38 per cent to $88.5m.

The backlog at the year-end was at a new high of $31.7m and the level of incoming orders topped $74m. For the first time, Measurex shipped more than 200 of its process control systems and by the end of fiscal 1978 had booked orders for 989 systems. It recently reached another milestone, the order for its 1,000th system.

As the company enters its second ten years, the strategic thrust remains the same. "It is to become the dominant company in computer-based process control systems worldwide," says Mr. David Bossen, president and chief executive. "We think in the businesses we are in now, we are there. We believe the business market potential is large enough for a $1bn company," he adds, "but we're not putting a timetable on when that will happen."

Mr. Bossen sees in just that business the potential for 25 per cent compounded yearly growth in both sales and earnings "for some time yet."

But that is essentially the outlook for process control systems for the pulp and paper industry, the company's largest business, which accounted for 80 per cent of revenues last year and should provide 70 to 75 per cent of volume this year.

Measurex's performance in its first ten years has been impressive, but a new round of enthusiasm is growing from its entry into energy management control systems, said to be a $1bn market

Systems for the plastics, rubber, metals, and building products industries represented the remaining 20 per cent last year.

As impressive as Measurex's performance has been in its traditional pulp and paper markets, a new round of enthusiasm is growing from its entry into energy management control systems, said by some to be a potential $1bn market. The company first entered the energy control business in 1973 and since has developed what it calls a "broad-based" product line to meet requirements of medium- to large-scale industrial steam and electrical power generating plants.

Fuel costs have more than quadrupled, making energy conservation critical to industry, and the threat of dwindling resources is forcing manufacturers to come up with ways to burn fuel more efficiently. Systems such as Measurex's sensor-based digital control equipment are expected to provide big savings of fossil fuels.

Mr. Bossen is direct in his enthusiasm. He regards prospects for the company's Model 2001 fuel optimization system as "the most exciting new industry development in our history."

Measurex began development of recovery boiler control systems before the 1974-75 OPEC oil embargo. "We were already well positioned by 1975 when Union Camp, the world's largest white paper mill, approached us for an energy control system," he recalls. Mr. Bossen claims fuel savings at an annual rate of 120,000 barrels per year are being reported in the first full year of operation for the power boiler and cogeneration systems alone at the Union Camp mill.

From that initial order from a textile company, Measurex has booked orders for energy systems from a food products company, a chemical manufacturer and a university. It has received energy system orders from Finland, Japan, the Soviet Union and the UK, as well as inside the U.S. Over the longer-term, Measurex forecasts annual revenues of around $200m by 1983, with energy control expected to contribute half the total. The company intends to reach an eventual $1bn yearly volume level without completing any mergers or acquisitions, confident that the markets it now serves are "adequately large," as Mr. Bossen puts it.

By 1983, when Measurex expects to be ringing up volume of $200m a year, international sales, which in fiscal 1978 accounted for 55 per cent of total revenues of $88.5m should represent close to 65 per cent. "I think in the long run, if we are doing our job right, international sales will be in a range of about two-thirds, simply because two-thirds of the world market for our equipment is outside the U.S.," says Mr. Bossen.

The company maintains offices in 17 countries and has installed digital computer-based control systems in 25 countries around the world. The EEC, plus Finland, last year produced revenues of approximately $32m out of the corporate total of $88.5m. Japan and Canada are about even, as the company's largest single-country foreign markets. "But the long range market potential is much larger in Japan," Mr. Bossen says.

FT INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. For further details of these or other bonds see the complete list of Eurobond prices published on the second Monday of each month. Closing prices on September 17

U.S. DOLLAR STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Alcoa of Australia 10 89	50	96	96½	0	+0¼	10.62
Alex Howden XW 9½ 91	30	†78	80	0	−2	13.08
Australian Res. 9⅞ 84 ...	30	95⅞	96¼	−0⅛	0	10.87
Avco O/S Cap. 10½ 87	40	90⅝	91⅛	0	0	12.08
Beneficial Fin. 9¼ 87 ...	100	95⅝	96⅛	−0⅛	+0¼	10.54
CECA 10⅞ 91	150	94½	95	0	−0⅛	11.57
CECA 9¾ 99	125	†90½	91	0	0	11.18
Canadian Pacific 9¾ 89	50	98⅞	98⅜	+0⅛	+0¼	10.39
Carter Hawley 9¾ 86 ...	50	93⅞	94⅛	−0⅛	+0⅛	11.01
[illegible] E 10¼ 91	40	96⅞	97⅜	+0⅛	+0⅛	10.68
Continental Grp. 9⅞ 88	100	96	96½	−0⅛	+0¼	10.41
Dome Petroleum 10 84	50	93½	94	+0⅛	+0½	10.95
Dominion Bridge 10¼ 84	30	96⅜	97⅛	+0⅛	+0⅛	11.07
Dow Chem. O/S 9¾ 94	200	95½	96⅛	−0⅛	0	10.17
[illegible] 86	150	96⅞	97⅜	−0⅛	−0½	10.51
EIB 9⅞ 99	100	96⅞	97⅛	+0⅛	−0⅛	10.49
EIB 9¾ 87	150	93⅜	98⅜	+0⅛	−0⅛	10.44
EIB 10 99	150	97⅞	98⅛	0	−0½	10.51
Export Dv. Cpn. 9¼ 84	100	96½	97	+0⅛	+0⅛	10.16
Export Dv. Cpn. 9¾ 84	150	97¾	98¼	+0⅛	+0⅛	9.77
Finland 9⅞ 86	100	95⅞	98⅝	0	+0¼	10.49
Finland 9⅞ 89	100	95⅞	96¼	−0⅛	−0½	10.56
ITT Finance 9⅞ 84	50	96⅝	96⅞	0	+0⅛	10.53
ITT Finance 9⅞ 89	55	92½	93	−0⅛	+0½	10.98
General Motors 9⅜ 86 ..	100	94⅞	95⅜	−0⅛	+0⅛	10.27
Gould Int. Fin. 9⅞ 85...	50	96⅛	96⅜	−0⅛	+0⅛	10.60
Hoechst Fin. XW 6½ 89	175	†77½	78	0	+0½	10.49
Hudson Bay Co 10 84	50	98	98½	0	0	10.50
ITT Antilles 9½ 89	75	92¾	93¼	−0⅛	+0⅛	10.68
Kennecott Int. 9⅞ 86	100	91⅜	91⅞	+0⅛	+0⅛	11.33
Manitoba 9⅞ 89	75	94⅜	94⅞	+0⅛	+0⅛	10.40
Michelin 10 84	125	95⅛	95⅝	−0⅛	0	10.63
Nat. Des Telecm. 9¾ 86	100	95⅜	96¼	−0⅛	0	10.33
New Brunswick 9¾ 84	75	93¼	93¾	0	+0⅛	10.63
Newfoundland 10 94 ...	50	96½	97	0	+0½	10.43
Norges Komm. 9⅞ 99 ...	100	†97½	98	—	—	10.40
Norway 9¾ 84	150	98⅞	99⅛	+0⅛	+0⅛	10.25
Norway 9½ 84	150	96⅞	97⅛	+0⅛	+0⅛	10.35
Nova Scotia Pwr. 9⅞ 89	50	94⅜	95⅛	−0⅛	+0⅛	10.58
Occidental Fin. 10¼ 84	50	96⅜	97⅛	−0⅛	−0⅛	11.11
Orient Leasing 9½ 86 ...	25	92¾	93¼	−0⅛	−0⅛	11.00
Pennwalt O/S F. 9¾ 84	25	96⅝	97⅛	0	+0⅛	10.60
Pepsico Cap. 9¾ 84 ...	100	97⅛	97⅝	0	+0⅛	9.98
Portland 10 84	50	96	96½	0	0	11.07
Quebec Hydro 10 99 ...	75	92¾	93¼	−0⅛	+0⅛	10.86
Redland Fin. XW 9½ 86	25	86⅜	88⅛	+0½	−0½	11.49
Sears Roebuck 9 82 ...	150	96⅜	96⅞	0	+0⅛	10.60
Statoil 9⅞ 89	100	95	95½	0	+0⅛	10.41
Stockholm 9¾ 94	60	97	97½	0	0	10.37
Sweden 9¾ 89	100	96⅛	96⅝	0	+0⅛	10.34
Sweden 9⅞ 86	200	96⅞	97⅛	−0⅛	−0⅛	10.42
Sweden 9¾ 84	100	97⅞	98⅛	0	+0½	10.31
Unilever NV 9¾ 87	100	95	95½	+0⅛	+0⅛	10.15
Warner-Lambert 9 84 ...	100	95	95½	−0⅛	0	10.28

DEUTSCHE MARK STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Argentina 7½ 89	150	95	95½	0	+0⅛	8.22
Asian Dev. Bk. 7⅛ 89...	100	98⅜	98⅞	+0⅛	−0⅛	7.45
Banco Desarrollo 7¼ 86	100	†94⅛	94⅝	+0⅛	−0⅛	8.37
Barclays O'seas 6⅞ 89	100	97⅛	97⅝	+0⅛	−0⅞	7.09
Brazil 7⅛ 87	150	95⅜	95⅞	−0⅛	−1⅛	8.06
Brazil 8 87	150	100⅛	100⅝	+0⅛	0	7.93
CECA 7 91	150	98⅜	98⅞	+0⅛	+0⅛	7.17
Council of Eur. 7¼ 89...	100	98⅝	99⅛	0	−0⅛	7.41
Denmark 5⅞ 85	100	†94	94½	−0⅛	−0⅛	7.06
Denmark 6½ 89	100	†94½	95	0	0	7.28
EIB 6¾ 91	200	94	94½	−0⅛	−0⅛	7.26
EIB 7⅛ 89	200	99⅞	100⅜	−0⅛	−0⅛	7.47
Eletrobras-Brazil 7 87...	100	97	97½	+0½	0	7.49
Eurofima 6½ 89	100	98½	99	+0⅛	−0½	6.68
Finland 6 83	150	97	97½	−0⅛	−0½	6.76
Mitsubishi Chem. 6½ 84	70	99¾	100¼	0	−0⅛	6.49
New Zealand 6¾ 87 ...	200	94¼	94¾	+0½	−2½	7.24
Nippon Kokan 6½ 84 ...	100	97¾	98¼	−0⅛	−0⅛	7.02
Nippon Tel. & T. 5½ 87	100	92⅜	92⅞	+0⅛	−0⅛	6.80
Nordic Inv. Bk. 6⅞ 86	80	95	95½	0	−0⅞	7.21
Norges Komm. 7¾ 91...	150	102⅛	102⅝	−0⅛	−0⅞	7.43
Norway 6¾ 84	200	99⅝	100⅛	+0⅛	+0⅛	6.27
Occidental 6¾ 90	150	†94⅜	94⅞	0	+0⅛	7.49
OKB 6¼ 88	100	†97	97½	+0⅛	+0⅛	6.91
OKB 6 87	40	†94½	95	+0⅞	+0½	6.92
Tokyo Elec. Pwr. 6½ 85	200	98⅜	98⅞	+0⅛	0	6.82
World Bank 6⅞ 88	400	†92⅞	93⅜	−0⅛	0	7.30
World Bank 7⅜ 91	400	101⅛	101⅝	+0⅛	+0⅛	7.56

SWISS FRANC STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Argentina 5½ 89	80	102⅛	102⅝	+0⅛	+0⅛	5.17
Asian Dev. Bank 3½ 94	100	85⅛	85⅝	+0⅛	+0⅛	4.95
Aumar 5 89	80	101⅜	102	+0⅛	−0⅛	4.75
Australia 3⅞ 89	250	95¼	95½	0	0	4.22
Bergen, City of 4⅜ 91...	40	104	104½	+0⅛	+0⅛	4.28
BNDE 5 89	75	95	95⅜	0	−0⅛	5.66
Brazil 4½ 88	100	95⅛	95⅜	0	+0⅛	4.90
Caisse Nat. Tels. 4½ 89	100	102¼	102½	+0⅛	0	4.08
Canada 3¾ 89	300	96⅜	96⅝	0	+0⅛	4.07
Council of Eur. 4¾ 90...	100	†101½	102	0	+1⅛	4.04
Denmark Mt. Bk. 4¾ 91	30	100½	100¾	+0⅛	0	4.69
EIB 4½ 91	100	100⅞	101⅛	−0½	−0⅛	4.39
EIB 4¾ 94	100	98	98½	+0⅛	−0⅛	4.55
Elec. de France 4¾ 89...	100	102	102¼	+0⅛	−0⅛	4.11
Heron 4¾ 89	35	95⅞	96⅛	0	+0⅛	4.78
ICI Fin. NV 3¾ 94	230	90½	91	−0⅛	+0⅛	4.37
Int.-Amer. Dev. 4¼ 89	100	100⅝	100⅞	+0⅛	−0⅛	4.44
New Zealand 3½ 94 ...	120	89⅛	89½	−0⅛	−0⅛	4.52
Nordic Bank 5 89	45	103¾	104	−0⅛	0	4.50
OKB 3¾ 91	100	91⅜	91⅞	−0⅛	−0⅛	4.69
Pfand Ost. Lande 4 90	80	94⅝	95	−0⅛	0	4.64
Philippines 4¾ 89	50	97½	97⅞	0	−0⅛	5.07
Shikoku El. Pwr. 4¾ 89	100	102½	102⅞	+0½	−0⅛	4.43
Spain 4 91	100	93½	94½	0	+0½	4.57
Stewens 4¾ 91	60	104½	104⅞	−0⅛	−0⅛	4.28
Voest-Alpine 4¾ 89 ...	60	103¾	104	+0⅛	−0⅛	4.25
World Bank 4⅝ 89	100	102⅛	102½	0	+0½	4.32

YEN STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Australia 5.6 83	30	93⅜	94⅛	0	−0⅛	7.37
Australia 6½ 88	20	90⅜	91⅛	0	0	8.11
EIB 7⅛ 89	12	98⅜	98⅞	+0⅛	0	7.95
Finland 5.6 83	10	92½	93⅛	−0⅛	−0⅛	7.73
Finland 6.8 88	10	90⅜	91⅛	0	−0⅛	8.35

OTHER STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Nordic I. Bk. 9 84 SDR	20	97	98	0	−0⅛	9.66
Avco Fin. 10¼ 86 C$ ..	25	92½	92⅞	−0⅛	0	11.84
Cr. Foncier 10¼ 84 C$	30	93⅜	94⅛	0	+0⅛	12.04
Ex. Dev. Cpn. 10 84 C$	50	95⅞	96⅜	0	+0⅛	11.08
Fst. Can. Inv. 10 84 C$	50	94⅛	94⅝	+0⅛	−0⅛	11.59
Hudson Bay 10½ 89 C$	60	95⅜	96⅛	−0⅛	−0⅛	11.18
Quebec 10½ 86 C$	50	94⅛	94⅝	−0⅛	−0⅛	11.43
R. Bk. Canada 10 86 C$	40	95⅛	95⅝	+0⅛	−0⅛	10.99
R. Bk. Canada 10 94 C$	40	91⅜	92⅛	+0⅛	+0⅛	11.13
Copenhagen 8¾ 91 EUA	25	†97	98	0	−0⅛	8.59
Komm. Inst. 7½ 93 EUA	15	92¾	95	+0⅛	0	8.19
SDR France 8½ 84 EUA	24	†98½	99½	−0⅛	+0⅛	8.81
SOFTE 8¾ 89 EUA	40	†94	95½	−0⅛	0	9.08
Amev 8½ 86 Fl	75	98⅛	98⅞	—	—	8.77
CFE Mexico 7¾ 83 Fl ..	75	97	97½	−0⅛	+0⅛	8.60
EIB 7¾ 83 Fl	75	92⅛	92⅞	−0⅛	−0⅛	8.91
Ned. Middbk. 8¾ 84 Fl	75	97⅜	98⅛	−0⅛	−1	8.28
New Zealand 8¾ 84 Fl	75	92⅛	92⅞	0	+0⅛	8.75
Norway 8½ 84 Fl	100	97⅜	98⅛	−0⅛	−0½	8.78
Air France 11 84 FFr ...	120	98⅛	99	—	—	11.34
Euratom 9¾ 87 FFr	150	90	91	−0⅛	−0⅛	11.68
Norway 9⅞ 84 FFr	200	92½	93½	−0⅛	−0⅛	11.31
PSA Peugeot 9½ 87 FFr	175	89½	90⅛	−0⅛	−0⅛	11.77
Renault 9¾ 85 FFr	100	92⅛	93⅛	0	−0⅛	11.84
Saint-Gobain 9¾ 86 FFr	130	90	91	−0⅛	−0⅛	11.86
Solvay et Cie 9⅞ 87 FFr	125	89⅛	90⅛	−0⅛	−0⅛	11.76
Total Oil 9⅞ 87 FFr	150	87⅛	88⅛	0	−0⅛	11.83
Citicorp 10 93 £	20	86⅞	88⅛	−1⅛	−3⅛	12.09
EIB 9¾ 88 £	25	88⅞	89⅞	−1½	−1⅞	11.81
EIB 11½ 91 £	25	93⅛	93⅞	−1⅛	−2½	12.57
Finance for Ind. 13 91 £	15	100⅛	100⅞	−1⅛	−2⅛	12.88
Fin. for Ind. 12½ 89 £	30	97⅜	98⅜	−1⅞	−2⅛	12.85
Gen. Elec. Co. 12½ 89 £	50	97⅞	98⅝	−1½	−2⅜	12.79
Indonesia 8¾ 91 KD	7	97½	97⅞	0	0	9.09
Mitsubishi 7½ 84 KD	10	96½	97½	0	0	8.26
Norges Kom. 7½ 89 KD	12	†95⅛	96⅛	+0⅛	0	8.04
Occidental 8⅜ 91 KD	7	94⅞	95⅛	+0⅛	+0⅛	8.93
Euratom 8 87 LuxFr	500	96⅛	97⅛	+0⅛	−0⅛	8.57
Norges Kom. 8 86 LuxFr	500	95⅜	96⅛	0	−0⅛	8.81
Oslo, City of 8 89 LuxFr	500	97½	98½	+0⅛	+0½	8.30
Solvay Fin. 8 85 LuxFr	500	†95½	96½	−0⅛	−0⅛	8.88

FLOATING RATE NOTES	Spread	Bid	Offer	C.dte	C.cpn	C.yld
BNDE 6 89	0⅞	96⅛	98⅞	21/9	11⅛	11.51
Banco di Roma Int. 6 87	0⅞	98⅞	99⅛	26/10	11.19	11.30
Bco. Nac. Argent. 7 86	0⅞	98½	98⅞	22/9	11½	11.69
Banco Prov. BA 7⅛ 86...	0⅞	98⅛	98⅝	12/6	11	11.18
Banco Urquijo 6 86 ...	0⅞	98	98½	21/9	11⅛	11.70
Bque. Indo Suez 5¾ 89	0⅞	98⅜	98⅞	11/1	11	11.15
Banque Sudameris 6 87	0⅞	96⅞	97⅜	11/1	11⅛	11.45
BNP 5½ 91	0⅛	98½	99	22/2	11.94	12.09
Citicorp O/S Fin. 6 94	‡0⅛	99⅞	100⅜	8/9	10.69	10.67
Citicorp O/S 83	‡0	99½	100	23/2	12.81	12.85
Creditanstalt 5½ 91	‡0⅛	99	99½	14/9	10⅞	10.96
GZB 5½ 89	‡0⅛	98⅛	98⅞	1/11	11.44	11.60
Jugobanka 8 89	0⅞	95	96	23/11	11⅞	12.43
LTCB Japan 6¼ 89	0¼	98½	99	7/12	11⅛	11.27
Mfrs. Han. O/S 5⅛ 94...	‡0⅛	99⅝	100⅛	23/11	12.56	12.58
Nacional Fin. 6¾ 88 ...	0⅞	97⅜	98⅛	25/1	11½	11.73
Nat. West. 5⅞ 94	0⅞	98⅛	98⅞	11/10	11	11.15
Nippon Credit Bk. 5½ 85	0⅞	98½	99	22/12	10.94	11.08
Nippon Credit Bk. 6½ 86	0⅞	97⅜	98⅛	12/1	10⅞	11.11
Petro Mexicano 7 84	0⅞	98⅞	98⅞	24/1	11.44	11.54
Royal Bank Scot. 5⅞ 94	‡0⅛	98⅜	98⅞	11/10	11	11.11
Sogenal 5⅞ 89	0⅞	97⅜	98⅛	11/1	10.94	11.17
Texas Int. Airways 7 86	‡0⅛	96⅜	97⅛	11/10	11.56	11.94
Trade Dv. Fin. Srv. 6 86	0⅞	97⅛	97⅜	21/2	—	—
TVO Pwr. 8 91 (D-lock)	0⅞	97⅜	98⅛	24/11	11⅛	11.35
Utd. Overseas Bk. 6 89	‡0⅛	97⅛	98⅛	29/9	11.14	11.36
Williams & Glyn 5⅞ 91	0⅞	98⅞	98⅞	14/3	—	—
Bq. E. d'Alg. 4⅞ 88 SF	0⅞	98½	98⅞	18/12	4⅞	4.40

CONVERTIBLE BONDS	Cnv. date	Cnv. price	Bid	Offer	Chg. day	Prem
AGA Akt'bolag 7⅞ 89	10/79	145	92½	93½	0	−2.23
Canon 6⅞ 94	8/79	570	101	101½	+0⅛	−0.17
Ciba-Geigy O/S F. 4 94	9/79	675	94⅝	95⅝	−0½	1.24
Credit Suisse 4⅛ 93 ..	10/78	1325	106⅛	107⅛	−0⅛	1.58
Esselte 7⅞ 89	9/79	159	96⅛	97⅛	−0⅛	−0.85
Honda Motor 5½ 89	5/79	532	100⅞	101⅞	+0⅛	−1.41
LPC International 8 89	9/79	†35	102	102½	−1⅞	19.97
Nitto Elec. Ind. 6 94 ...	7/79	735	89⅜	90⅛	+0⅛	2.19
Union Bank Switz. 5 89	2/80	125	108⅜	109⅛	−0⅛	8.44
Fujitsu 5 84 DM	7/79	475	100⅝	101⅜	0	16.97
Kansai Elec. 4 84 DM ..	4/79	†1350	89½	89½	+0⅛	52.35
Marudai Food 3½ DM...	2/79	1033	81⅛	81⅞	+0⅛	43.17
Nippon Yen. 3½ 85 DM	1/79	†251	100⅜	101⅛	0	−0.92
Sharp Cpn. 3½ 88 DM	2/79	487	96⅛	96⅞	−0⅛	8.18
Tokyo Elec. 3½ 87 DM	4/79	†476	97⅜	98⅛	−0⅛	57.30
Tokyu Ld. Cp. 4 86 DM	4/79	†493	83	84	+0⅛	35.53
Uny Co. 6½ 85 DM	11/79	1071	101⅜	102⅛	−0⅛	4.46

* No information available—previous day's price.
† Only one market maker supplied a price.

Straight Bonds: The yield is the yield to redemption of the mid-price: the amount issued is in millions of currency units except for Yen bonds where it is in billions. Change on week=Change over price a week earlier.

Floating Rate Notes: Denominated in dollars unless otherwise indicated. Coupon shown is minimum. C.dte=Date next coupon becomes effective. Spread=Margin above six-month offered rate (‡ three-month) for U.S. dollars. C.cpn=The current coupon. C.yld=The current yield.

Convertible bonds: Denominated in dollars unless otherwise indicated. Chg. day=Change on day. Cnv. date=First date for conversion into shares. Cnv. price=Nominal amount of bond per share expressed in currency of share at conversion rate fixed at issue. Prem=Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

INTERNATIONAL COMPANIES and FINANCE

BANKERS ACCEPTANCE

A new-look formula from Pemex

BY JOHN EVANS

THE BANKERS acceptance, a money market instrument with a long pedigree in New York, London and other financial centres, is suddenly attracting new attention in the international money markets as a result of a transaction by Petroleos Mexicanos-Pemex, the Mexican state oil and gas agency.

Pemex has just completed and signed an acceptance agreement for $2.5bn with 66 international banks. The facility was raised from an originally planned $1.5bn, after the syndication operation headed by Bank of America in New York raised a staggering $3.7bn of participations from the banks.

Even at this scaled-down down figure, the facility ranks as one of the largest capital market transactions in recent years. It compares, for instance, with the $3bn raised for balance-of-payments purposes by Canada last year, and the $2.5bn Eurocurrency loan by the British Treasury in the mid-1970s.

Pemex will use the acceptances for short-term financing for the export of its crude oil, and the import of petroleum derivatives. It is understood that the financing will be, in essence, the sole vehicle for financing Mexico's oil and gas shipments.

The international oil trade is conducted extensively on credit, with oil consumers typically being granted credit periods ranging from 30 to 60 days by the oil-exporters.

The Pemex revolving line of credit uses prime U.S. bankers acceptances with maturities of up to 180 days, which will be eligible for discount at the U.S. Federal Reserve system.

While acceptances have been in use for many years, the Mexican operation is re-arousing the interests in both banks and potential borrowers to their uses, particularly for large trade-related transactions.

A bankers acceptance essentially is a time draft for a specified amount of money at a specified date. The draft is accepted or "endorsed" by a banks and becomes an irrecovable obligation of the accepting bank payable to the holder at maturity.

When accepted by the bank, the draft may be held by the bank for its own account or sold at a rediscount to other investors in a secondary market existing for the instruments.

The Mexican operation has re-aroused the interest of both banks and potential borrowers to the use of the bankers acceptance, particularly for large trade-related deals

At maturity, the holder is paid the face amount of the draft by the accepting bank. The bank in turn receives payment from its drawing customer on or shortly before the maturity date, out of proceeds of the sale of the customer's product.

The traditional acceptance formula has been "modernised" slightly for Pemex, chiefly in that it has been syndicated in order to obtain the large amount needed.

In fact, participating banks are split roughly between U.S. and foreign institutions. Foreign banks with a full U.S. branch are eligible to participate in the acceptance market.

The rate structure on the facility is also complex. Each participating bank has been awarded an acceptance commission of ½ per cent.

As the rate of discount on acceptances varies from bank to bank, a special blended formula has been used for determining the ultimate cost to Pemex.

This represents the average rate of five key reference banks in the syndication operation, plus an extra margin of 20 basis points. This technique should iron out any undue fluctuations in the varying rates of discount on the acceptances of the whole banking syndicate.

The formula should still work out at relatively cheap financing for Mexico, in comparison with, say, the U.S. banking prime rate (now 13 per cent), or London interbank Eurodollar interest rates.

While some banks are now re-thinking the role of acceptances in big international financings, there is one factor that may tend to limit their use.

The Pemex transaction alone equals nearly 10 per cent of the total acceptance market in the U.S., which is estimated to run at a total annual volume of around $30bn.

Some of the banks participating in this Mexican transaction are believed to have been forced to "run off" some of their existing acceptance commitments, in order to make room for the new facility.

Bankers thus argue that, in the foreseeable future, it may be difficult to accommodate many transactions in North America of the size of the Pemex acceptance.

Veba backs out of U.S. auction

By Our Financial Staff

VEBA, the West German energy concern, did not take part in yesterday's bidding for the Belridge Oil Corporation which owns substantial oil drilling rights in the U.S., near Los Angeles.

The decision was taken followin gobjections to the deal from a major minority shareholder in Deminex, the 54 per cent owned oil exploration minority subsidiary of Veba which was to have been the vehicle for the offer. Had Deminex been represented at the auction it would possibly have been involved in the largest ever foreign offer for a U.S. company.

The objection to the deal came from Wintershall AG, a wholly-owned refining subsidiary of BASF, which owns 18.5 per cent of Deminex. The company said that it refused the planned deal following intensive studies together with the West German Economic and Finance Ministries.

Wintershall said under existing distribution quotas and other U.S. regulations it would be highly unlikely to receive direct access to crude oil supplies from the Belridge oilfields.

Earlier this month Veba, which is 43.75 per cent Government-owned, said it was examining the possibility of making a bid for Belridge through its subsidiary Deminex, while the West German Economics Ministry was looking into possible financial gurantees covering the deal.

KUALA LUMPUR NEWS

Palmco raises $79m for expansion

BY WONG SULONG IN KUALA LUMPUR

PALMCO HOLDINGS, one of Malaysia's fastest growing companies, has secured loans and other financial facilities totalling 170 ringgits ($79m) from a consortium of 12 banks to finance the expansion of its projects based on palm oil.

The loan and financial facilities, managed by UDA merchant bankers, consist of a wide range of financial instruments, designed to allow Palmco to make the most efficient use of them and carry various rates and terms of up to a maximum of six years' maturity.

Palmco would use the funds to expand and diversify its operations in Prai, in Northern Malaysia, including further extraction of palm kernel oil, refining and fractionating, and downstream processing of palm oil into industrial fatty acids and glycerine.

The group began refining palm oil in 1972, and has since grown to be one of the biggest palm oil refining groups in the world.

Last year, it exported refined palm oil and related products worth 275m ringgit, compared with an export value of only 5m ringgit in 1972. Investment in fixed and current assets has risen from 3m to 110m ringgit, and shareholders' funds have increased from 4.2m to 40m ringgit during that period. Datuk Robert Chan, its managing director, said the group was expected to export products worth 500m ringgit.

* * *

UNITED PLANTATIONS, the Danish-owned concern, has recorded an after-tax profit of over 10m ringgit (US$4.6m) for the first half of this year — nearly 140 per cent higher than the comparable previous period, when results were affected by drought. Output rose sharply and prices were good.

The performance for the second-half, the directors said, should be even better than "the agreeable results" of the first six months.

They based their forecast on the fact that commodity prices were "still excellent" and that forward sales had been contracted at "advantageous price levels."

For the first-half, United Plantations recorded a turnover of 39m ringgits (US$18.1m), a 73 per cent increase over the previous first-half.

The volume of crop harvested during the first half gave reason to believe that output of palm oil, palm kernal and cocoa would be at a record this year, the company said.

W. German construction machinery orders dipping

BY OUR FINANCIAL STAFF

OUTPUT BY the West German construction machinery industry is expected to tail off sharply during the final six months of this year, according to the VDMA, the Association of Machinery Construction.

Production by the industry rose by a tenth in the opening six months of 1979, but is now forecast to emerge from the year as a whole with a rise of just 5 per cent. The slowdown is atributed to adverse government investment policy and rising oil prices.

Despite the sombre forecasts, VDMA said that production was currently benefiting from the strength of the West German economy. Breaking the industry into categories of construction machines and machines for construction materials, the VDMA noted that the former category had posted record production in the first six months of 1979, up 13.6 per cent from the year earlier. The latter, under heavy export pressures, expanded only 0.8 per cent during the period.

Exports of West German construction machinery fell back sharply in 1977 and 1978 while the domestic market simultaneously strengthened. This pattern is currently being reversed, the association emphasised. Exports to OPEC states are expected to increase in the last half of 1979. The high export levels to OPEC states posted in 1975 and 1976 will probably not be reached, however, since most of the one-time needs for major plant construction have already been covered.

● Shifts in plant holiday closings created a preliminary 21 per cent rise in order inflow to the West German textile industry for July, the Textile Industry Association (Gesamttextil) reports. Production of textiles rose 31 per cent in July against July 1978. In its monthly report on industry statistics, the association said that both order inflow and production figures were exaggerated because plants operating in July, 1979 were shut down for holidays last year.

L'Oreal confirms offer for Helena Rubinstein

BY TERRY DODSWORTH IN PARIS

L'OREAL, THE leading French cosmetics company and owner of the Lancome trademark, has confirmed that it is once again attempting to buy Helena Rubinstein of the U.S.

The possibility of a deal between the two companies foundered earlier this year when Colgate-Palmolive, the owner of Helena Rubinstein, entered into talks with Kao, a Japanese specialist in the detergents industry. Kao made a $75m bid for the U.S. company, but the agreement fell through at the last moment.

L'Oreal, which is loosely linked with Nestle, the Swiss group, is known to be anxious to expand its overseas base. Helena Rubinstein would give it a major presence in the U.S., but the French company would also be faced with a sizeable task in pulling the American group back into profits. Helena Rubinstein is believed to have lost about $3m in its last financial year after a lengthy period of financial difficulties.

Apart from its interests in cosmetics and perfumes, L'Oreal has a strong position in the French hair lotion and shampoo market, and is reckoned to be among the leaders in pharmaceuticals. Its turnover last year amounted to FFr 5.6bn ($1.3bn), of which a little more than half was generated overseas.

Norsk Hydro completes CNA acquisition

By Fay Gjester in Oslo

NORSK HYDRO, Norway's largest industrial concern, has completed its acquisition of a Belgian-Dutch fertiliser company—Compagnie Nederlandaise de l'Azote (CNA)—which has an annual turnover of around $200m.

Plans for the takeover were made public in June the deal strengthens Norsk Hydro's position as an international manufacturer of fertiliser products. For many years, Denmark and Sweden have been the main markets for these products from Hydro's Norwegian plants, the remainder being sold in overseas markets including the U.S. and the Far East. The takeover of CNA means that Hydro now becomes a major fertiliser producer on the Continent, one of the world's largest nitrogen fertiliser companies and the biggest exporter of urea.

While Norsk Hydro's main fertiliser product is complex fertiliser, CNA's production is oriented more towards pure nitrogen products. The takeover will, therefore, give Hydro a more varied product range. CNA has an annual production capacity of 700,000 tonnes of ammonia, 730,000 tonnes of urea, 685,000 tonnes of nitric acid and 800,000 tonnes of other nitrogen fertiliser products.

Italy steps up funding level

ROME — The Italian Treasury will raise L7,500bn ($9.2bn) in the next few weeks through an issue of Treasury Bills and Certificates. The issues will, in part, serve to cover repayment of L4,000bn worth of maturing Treasury Bills and L2,000bn of maturing Treasury Certificates. Of the maturing Treasury Bills, L3,600bn are held by commercial operators and the rest by the Bank of Italy.

later this month will consist of

The Treasury Bill auction L2,000bn of six month Bills and L2,750bn of 12 month Bills, the Treasury said. The Treasury will also sell L1,250bn two-year floating rate Treasury Certificates priced at par from September 28, and L1,500bn of three-year floating rate Certificates priced at 99.75 per cent from October 1.

Reuter

Wheelock Marden and Company Limited

* Further Growth in Recurring Profits which increased by 42%

* Total Distributions per Share increase by 32%

Financial highlights from the accounts for the year ended 31st March, 1979.

	1979 HK$'million	1978 HK$'million
Consolidated Net Profit After Tax	122.33	86.19
Extraordinary Items	2.48	10.37
	124.81	96.56
Total Dividends Paid and Proposed	55.90	40.53
Special Capital Bonus Proposed Payable in Cash	6.99	6.99
Consolidated Net Assets	905.53	848.35
Consolidated Net Asset Value	HK$	HK$
Per HK$1.00 "A" share	$3.24	$3.04
Per HK$0.10 "B" share	$0.32	$0.30
Earnings Per Share (before Extraordinary Items)	Cents	Cents
Per HK$1.00 "A" share	43.8	30.8
Per HK$0.10 "B" share	4.4	3.1

The Annual General Meeting will be held at the Mandarin Hotel, Hong Kong on 1st October, 1979. Copies of the Annual Report for the year ended 31st March, 1979 can be obtained from Miss Sheila Gray, Wheelock Marden (U.K.) Limited, 16, Finsbury Circus, London, EC2M 7DD.

MINORCO

MINERALS AND RESOURCES CORPORATION LIMITED

(Incorporated in Bermuda)

Year-end Results and Final Dividend on the Ordinary Shares

In accordance with the recommendations of the Canadian Institute of Chartered Accountants, as adopted by the Bermudian accounting profession, the corporation has introduced the equity method of accounting in respect of its major associated companies for the first time, with effect from 1st July 1978. Associated companies are those in which the corporation and/or its subsidiaries hold 20 per cent or more of the equity share capital and whose profits are freely remittable. No adjustments have been made to the corresponding 1978 figures.

The following are the unaudited consolidated results of the corporation for the year ended 30th June 1979, which should be read in conjunction with the adjoining notes.

CONSOLIDATED PROFIT AND LOSS ACCOUNT
for the year ended 30th June 1979
(expressed in United States dollars)

	Note	$000's	$000's	Year ended 30th June 1978 $000's	$000's
Income					
Dividends from investments including associates	2	18,423		15,115	
Interest and sundry income	2	2,039		2,422	
Zamic operations	1			1,339	
Profit arising from currency fluctuations		56		1,452	
			20,518		20,328
Administration and other expenses		1,093		1,315	
Interest		126		253	
Costs of prospecting		3,009		2,436	
			4,228		4,004
Operating profit before taxation			16,290		16,324
Foreign taxation	2		1,224		1,179
Operating profit after taxation			15,066		15,145
Group share of retained net earnings of associates	3		20,409		
Profit before extraordinary items			35,475		15,145
Extraordinary items—deficit	4		1,099		1,576
Profit after extraordinary items			34,376		13,569
Dividends—Ordinary shares	5		8,829		8,829
Retained profit			25,547		4,740
Transfers from (to) reserves:					
Capital reserve		—		(566)	
Prospecting reserve		—		3,210	
			—		2,644
Unappropriated profit 30th June 1978		39,280		32,255	
Adjustment thereto arising from currency fluctuations		239		(359)	
			39,519		31,896
Unappropriated profit 30th June 1979			65,066		39,280

Notes:

1. The results for the current year are not comparable with those of the previous year because with effect from 1st July 1978:—
   (i) the results of Zamanglo Industrial Corporation Limited (Zamic), a wholly-owned subsidiary, have not been consolidated because its profits are not currently freely remittable from Zambia, and
   (ii) the equity method of accounting has been introduced for the first time.
2. Income includes gross dividends and interest before deduction of withholding taxes, such taxes being included in the charge for foreign taxation.
3. The financial year-ends of certain associates do not coincide with that of the corporation and, accordingly, the results for this year include only that portion of the earnings of each associate which fell within the corporation's financial year. In future years the corporation will account for the earnings of each associate for a full financial year.
4. Extraordinary items
   In the year to 30th June 1979 a profit was realised on the sale of investments of $319,000 and a deficit arose in an associate on the writedown of investments of $1,418,000, resulting in a net deficit of $1,099,000.
   The total deficit for the year ended 30th June 1978 was $1,576,000 comprising an amount of $838,000 arising on the writedown of, and provision against, investments, a loss on realisation of investments of $244,000 and losses arising on devaluation of foreign currencies totalling $494,000.
5. Dividends

	1979 $000's	1978 $000's
Interim dividend of 4 cents a share declared 14th February 1979	2,943	2,943
Final dividend of 8 cents a share declared 17th September 1979	5,886	5,886
	8,829	8,829

6. Unappropriated profit at 30th June 1979 comprises:

	$000's
Retentions by the corporation and its subsidiaries	46,075
Retentions by associates	18,991
	65,066

7. Inspiration Consolidated Copper Company (ICC)
   The corporation and Hudson Bay Mining and Smelting Co. Limited (Hudbay) together equally own a company known as Plateau Holdings Inc. (Plateau), which, in turn, owned Inspiration Holdings Inc. (IH). At 31st July 1978 IH held 73.04 per cent of the outstanding common stock in ICC. During the year under review IH was merged with and into ICC and the balance of 26.96 per cent of the outstanding common stock in ICC was converted into class "A" preferred stock, which is redeemable before 31st December 1981. Consequently—through Plateau—the corporation and Hudbay now own, in equal shares, all the common stock in ICC.
   The preferred stock carries a cumulative preferred annual dividend of $1.80 a share, has the same voting rights as the common stock and is redeemable, at the option of the holders, on each quarterly dividend payment date for $33 a share. Concurrent with the redemption of each unit of ICC preferred stock, Plateau is obliged to subscribe for one common stock unit in ICC for $33. At 30th June 1979, 713,583 units of preferred stock were in issue.
8. US$50 million multicurrency term credit facility
   The corporation has recently negotiated with a consortium of international banks a US$50 million multicurrency term loan facility having a duration of ten years.
   The rate of interest will be based on offered rates quoted by certain defined banks in the London Interbank Eurocurrency Market.

FINAL DIVIDEND NO. 85

A final dividend of 8 cents a share (1978: 8 cents) (United States currency), for the year ended 30th June 1979, has been declared payable to members registered in the books of the corporation at the close of business on 28th September 1979 and to persons presenting coupon No. 88 detached from share warrants to bearer. A notice regarding payment of dividends on coupon No. 88 detached from share warrants to bearer will be published in the Press by the London Secretaries of the Corporation on or about 28th September, 1979.

This dividend, together with the interim dividend of 4 cents a share (1978: 4 cents) declared on 14th February 1979 makes a total of 12 cents a share for the year (1978: 12 cents).

Dividend warrants will be posted from the registered office of the corporation in Bermuda and from the Johannesburg and United Kingdom offices of the local registrars on or about 8th November 1979. Shareholders on the United Kingdom register resident outside the United Kingdom will receive their dividends in United States currency. Shareholders resident in the Scheduled Territories will receive the United Kingdom currency equivalent on 30th October, 1979 of the United States dollar value of their dividends (less appropriate taxes). Such shareholders may, however, elect to be paid in United States currency provided the request is received at the company's transfer offices in the United Kingdom on or before 28th September, 1979. The dividend is payable subject to conditions which can be inspected at the registered office of the corporation and also at the Johannesburg and United Kingdom offices of the local registrars.

For and on behalf of the Board
W. D. WILSON
H. R. FRASER } Directors

Registered Office
Belvedere Building, Pitts Bay Road, Pembroke.
(P.O. Box 650, Hamilton 5), Bermuda.

U.K. Registrars
Charter Consolidated Limited, P.O. Box 102, Charter House, Park Street, Ashford, Kent TN24 8EQ.

S.A. Registrars
Consolidated Share Registrars Limited, 62 Marshall Street, Johannesburg 2001 (P.O. Box 61051, Marshalltown 2107).

18th September, 1979

Record third quarter sales for Sony

BY RICHARD C. HANSON IN TOKYO

SONY CORPORATION'S third *quarter results have lent a boost* to the company's confidence in its business outlook. Net income for the period, announced yesterday, was well below the year ago figure, as a result of *exchange losses, but a sharp* recovery is being forecast for the last quarter of the fiscal year and for beyond.

Sales in the quarter, to July 31, were 19 per cent up on last *year's level, to a record* Y161.2bn ($720m), with the best gains coming from sales of video tape recorders (VTRS) and magnetic tapes. VTRs and VTR tapes accounted for 25 per cent *of all sales*, against 21 per cent a year ago, with equipment sales up 32.2 per cent.

Television sales, which had proved sluggish in earlier *periods*, were up *7.2* per cent, though the share of total sales was down to 31.7 per cent, from 35.1 per cent.

Overseas sales gained 20 per cent and domestic sales 17.6 per cent. About 60 per cent of Sony's business is overseas. Gains were particularly good in South East Asian and the Middle East markets.

Third quarter net income fell 40.1 per cent to Y5.95m with net income for the first nine months of the year decreasing 37.6 per cent to Y13.8bn. The company attributed the drop to foreign exchange losses, which totalled Y7.1bn. The exchange loss, however, showed an improvement for Sony as compared with the second quarter, when the company had a Y10.9bn loss on this account. This time 80 per cent was a loss on forward contracts and 20 per cent was attributable to the translation of overseas dollar profits into yen, under U.S. accounting practice. In the second quarter, 40 per cent of the exchange loss was the result of translation losses.

The net profit in the last quarter is expected to show an increase *of over 100 per cent in* comparison with that in the fourth quarter of 1978, when the company suffered a 40 per cent decline.

Net income for thef ull year should therefore be only 10 per cent below last year's Y25.87bn. With the problem of exchange losses fading away, the company is predicting substantial increases next year.

Sales for the full year are expeteed to reach a record Y620bn, compared with Y534.9bn last year.

Sony has made considerable savings in its operating costs over the past year, and these have contributed to a 190.5 per cent increase in operating profit in the latest quarter, to Y19.37bn.

The company is stepping up spending for research and development (concentrating on audio and video products). Such spending equalled 6.6 per cent of sales last quarter, up from 5.8 per cent last year.

Sony has held its own in the competition for VTRs, maintaining about 40 per cent of the Japanese market on its own—with the percentage rising when other companies using the Sony Betamax system are included. The market development rate in both the U.S. and Japan is still only 3 per cent of potential. Sony feels, and believes this will rise as high as 10 per cent in coming years. The company is also preparing a range of video disc systems in preparation for future introduction commercially.

Sales of a higher priced VTR model, introduced this year, have been strong, as have those of more expensive television sets with built-in stereo and multi-band receiving capabilities.

Containers boosts earnings

By James Forth in Sydney

TWO OF THE leading companies in the highly competitive packaging industry, Containers and J. Gadsden Australia have reported contrasting profit results for 1978-79.

Earnings at Containers rose 36 per cent from A$8.4m to A$11.4m, (US$12.8m) on a 13 per cent increase in sales to A$195m, but Gadsden suffered a 6 per cent dip in earnings from A$8.26m to A$7.79m despite a *4 per cent gain in sales to* A$248m.

Containers has increased its dividend from 15 cents a share to 15.5 cents, an amount almost three times covered by earnings of 45 cents, which compare with the 40 cents of the previous year.

Gadsden has maintained its basic dividend at 17 cents, but has added a bonus payment of 5 cents, despite the lower profit, to celebrate the company's 100th year of operations.

The Gadsden result equalled earnings of 33 cents a share, compared with 47 cents in 1977-78. The directors of Continers said that strong demand for export packaging and good seasonal conditions for certain of the group's "open top" customers assisted in maintaining the favourable results reported in the first-half.

The elimination of losses in two-piece canmaking materially assisted the Containers result. But, Gadsden's results were adversely affected by losses from its two-piece canmaking operation. Gadsden acquired a 60 per cent interest from ACI in Pacific Can during the year, and this operation is now known as Gadsden-Pacific Can.

Gadsden's results included a loss of A$1m as its share of Gadsden-Pacific's losses for the seven months after acquisition. Considerable attention had been given to improving the efficiency of this operation and, while competition remained vigorous, the directors expected the current year would be satisfactory, although it was not expected to be profitable in the short term.

Kubota increase

TOKYO — Consolidated net income for Kubota, the construction and machinery group, *increased to Y4.50bn for the first* quarter ended July 15. Sales were ahead at Y114.19bn compared with Y100.77bn.

Earning per American depositary Y71.00.

Reuter.

Takeover withdrawal censured

BY PHILIP BOWRING IN HONG KONG

THE Committee of Takeovers and Mergers has recorded its "strong disapproval" of the behaviour of the board of Highlands and Lowlands Berhad, the Malaysian plantation company. Last week Highlands withdrew a HK$300m (U.S. $59m) cash offer for three Hong Kong quoted estate companies, Rubber Trust, Amalgamated Rubber and Shanghai Kelantan Estates. The Committee said it regarded the reasons given by Highlands for withdrawing to be "inadequate." within the terms of the voluntary rules of the takeover code.

The bid for the three *companies was announced by Highlands* and Lowlands on August 7.

This is the first such censure that Hong Kong's takeover committee has handed out. It is especially embarrassing for the Malaysian group because of the eminence of many of the members of the board of Highlands. The board includes: Tun Tan Siew Sin, the former Malaysian Finance Minister now chairman of Sime Darby; Tunku Shahri*man, chairman of Pernas*, the national corporation which is the largest shareholder in Sime and has 10 per cent of Highland; Raja Muhammad Alias, chairman of Malaysia's Federal Land Development Authority; Senator Tan Sri Lee Loy Seng, head of the Kuala Lumpur Kepong plantation group, and Datuk Syed Ketchik, the businessman.

The board entered into the decision to *withdraw the bid* before providing the takeover committee with a full explanation. The statement from the committee said that the board had acted expressly contrary to the advice of its merchant bank advisers in Hong Kong, Baring Brothers Asia and Amex Bancom. The bankers had both dissociated themselves from the board's actions by resigning as financial advisers to Highlands.

In reply to the committee's request for full explanation of the withdrawal of the offer, the company had said that there had been "no satisfactory" response from the three estate companies.

But the committee pointed out that the three had publicly stated that they had taken immediate steps to have their estates revalued so that their financial advisers could advise shareholders. The committee said that the company had made a specific and firm offer and the investing public "should be entitled to reply on such statements."

Thomas Nationwide well ahead

SYDNEY—Thomas Nationawide Transport, raised its attributable consolidated operating profit to A$23.36m (U.S.$26.2m) in the year to June 30,, from A$14.22m a year earlier. Turnover was A$610.71m (U.S.$686m), against A$463.09m, and other income A$10.53m, against A$11.53m.

Profit is after tax of A$14.11m, compared with A$11.98m, depreciation of A$18.70m (A$12.26m) interest of A$15.16m (A$9.29m), and minorities of A$4.73m (A$3.05m), but before attributable net extra-ordinary profit of A$5.12m (A$158,000).

Thomas Nationwide is to make a new issue on the basis of one new 50 cent par share for every 30 notes at 50 cents per share to holders of 1980 and 1983 unsecured convertible notes registred on November 23.

The company noted that under the terms of its 1985 unsecured convertible notes, noteholders' entitlements to the bonus issue would accrue to such notes and be allotted on conversion.

* * *

CONCRETE INDUSTRIES (Monier) is to increase its holding in Nippon Monier KK to 80 per cent from the present 33.33 per cent.

It will do so by purchasing the shares held by Eidai Company, while the remaining 20 per cent will continue to be held by Nissho-Iwai Company.

Concrete Industries added that it will build a new concrete tile plant at Dyama, Kanto, at a cost of $3.68m, to be financed partly by a Nippon Monier share issue.

Reuter

BMI to make rights issue after advance

BY OUR SYDNEY CORRESPONDENT

BMI, the major quarrying, building materials and engineering group, is to raise A$11m through a rights issue to shareholders, after a solid gain in profits for the year to June 30. The group's earnings rose 30 per cent from A$9.6m to A$12.6m (US14.2m), continuing the upward trend of the past five years.

The dividend is raised from *7.5 cents a share to 8 cents, lifting* earnings per share from 14.9 cents to 17.3 cents.

The rights issue will be offered on a one-for-four basis, at an issue price of 50 cents. BMI shares closed at A$1.19 on the market yesterday, giving the rights a theoretical value of 55 cents. The new shares will rank for dividend after January 1, 1980, and the directors expect the higher dividend rate to be maintained on the expanded capital.

Looking ahead, the directors plan to seek shareholders' approval to double the *authorised capital to A$100m to* "provide scope for further issues which may be necessary in connection with BMI's positive programme of expansion."

The directors said that con*tributions from the group's* direct domestic operation rose by 29 per cent, but that the growth from local operations was not mirrored in the group's overseas operations, which all suffered *from reduced demand* in their areas. The higher result was achieved on a 19 per cent increase in turnover from A$174m to A$208m.

The board said the rise in tin prices was responsible for investment income rising by 13.6 per cent to A$1.75m through the group's stake in Kajuara Mining Corporation. Investments in concrete and quarrying did not fare as well, because of lower demand and intense price competition.

The performance of the overseas division dipped through a mixture of bad weather and exchange losses. A general transport strike and harsh winter in the UK halted the growth in January and February of Pozzolanic Ltd, the UK fly ash distributor, resulting in further losses.

In Indonesia, devaluation as well as causing direct losses in unrealised currency fluctuation losses, deterred investors and further depressed the already reduced Javanese construction market.

Itoh passes its half-year dividend

TOKYO — C. Itoh and Co., the Japanese trading house, is to pass its mid-year dividend payment for the first time in 27 years.

The company has decided not to pay a dividend for the September 30 half-year because it expects to face heavy losses by the end of the current fiscal year next March 31. It is to shoulder most of a Y51.4bn ($230.28m) deficit suffered by the Toa Oil group, of which it is the major stockholder.

C. Itoh has already agreed to sell part of the group to Nippon Mining Company, the Japanese mining and smelting concern.

The company is planning to pay a year-end dividend.

AP-DJ

Mitsubishi Chemical up

TOKYO — Mitsubishi Chemical Industries Ltd made an after-tax profit of Y2.85bn ($12.76m) in the half year ended July 31, against Y1.37bn in the same period last year. Sales totalled Y295.93bn (Y255.83bn). The interim dividend was nil.

Reuter.

Kirin Brewery

TOKYO — Kirin Brewery has reported after-tax profit of Y9.23bn ($41.35m) in the half year ended July 31 compared with Y9.49bn in the same period last year. Sales were Y447.67bn compared with Y428.61bn. Interim dividend is Y3.75, the same as last year.

Reuter

Increase in suspensions

TOKYO — The number of Japanese companies suspended *from* bank transactions in August totalled 1,426, up 11.1 per cent from the 1,283 in July, but down 0.9 per cent from 1,438 in the like year-earlier month, the Federation of Bankers' *Association* said.

Liabilities left totalled about Y43.63bn ($200m), up 11.8 per cent from the Y39.01bn in the previous month, and 124.6 per cent from the Y19.27bn a year earlier.

AP-DJ

Higher result from Edward L. Bateman

By Jim Jones in Johannesburg

EDWARD L. BATEMAN, the mechanical and electrical engineering group, has again reported record results, but the management is characteristically cautious on near-term prospects.

In the year to June 30, the pre-tax operating profit advanced 24.3 per cent to R6.65m ($8m) (1978: R5.35m) helped by uranium and diamond mine plant construction projects taken to account during the year. Although at this time last year the board was happy with the company's order book, the latest preliminary results announcement gives a warning that the work load is still below plant capacity.

However, earnings for the current year are expected to be about the same as those for the latest trading period. Bateman is traditionally a conservatively run company, with little *debt carried* in its balance sheet. Although earnings per share advanced to 170 cents (1978: 139 cents), the total dividend pay-out has been limited to 30 cents (1978: 26 cents).

George Kent profits ahead

By Wong Sulong in Kuala Lumpur

PRETAX PROFITS of George Kent Berhad, the 60 per cent owned Malaysian subsidairy of George Kent, for the first six months increased by 16 per cent to 1.69m ringgit (U.S.$782,000) on an 18 per cent rise in turnover to 16.3m ringgit.

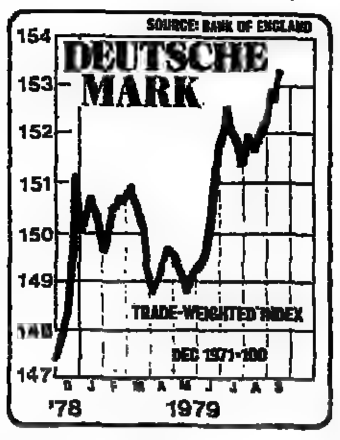
The company said profit margins from its Singapore operations were lower due partly to the execution of some large contracts at low margins and also higher cost of operation. The company is optimistic that results for the full year would be better than last year's and that orders had expected anticipated volume.

An interim dividend of 8 per cent is declared.

CURRENCIES, MONEY and GOLD

Sterling weak

Sterling fell sharply in currency markets yesterday, but finished well above its lowest levels. Pressure on sterling, which really started last Friday, soon re-asserted itself as large and consistent selling orders, particularly out of West Germany saw the pound fall over 3 cents against the U.S. dollar at one time. After opening at $2.1575, it rose briefly to $2.1600 before plunging to



$2.1260 at around 11 am. The Bank of England intervened from time to time at these lower levels but the scale of help barely reached modest proportions. During the afternoon the pound looked somewhat oversold and renewed interest pushed up the rate at the close to $2.1510-2.1520, *a fall of 1.7c from Friday.*

While the possibility of an imminent revaluation of the D-mark receded, the market was still unhappy over the current industrial unrest in the UK and a continued high level of inflation.

Sterling was also weak against other European currencies and fell to DM 3.90 from DM 3.93 against the D-mark and FFr 9.1025 from FFr 9.1750 in terms of the French franc. Using Bank of England figures, its trade weighted index fell to 68.4 from 69.3, although this was a considerable improvement over the noon calculation of 67.8.

The dollar showed a mixed tendency overall and closed at SwFr 1.6315 from SwFr 1.6330 against the Swiss franc, but rose slightly against the D-mark to DM 1.8120 from DM 1.8115. On Bank of England figures, its trade weighted index was unchanged at 85.0.

FRANKFURT — There was no intervention at yesterday's fixing by the Bundesbank when the dollar was fixed at DM 1.8101, down from Friday's level of DM 1.8137. The U.S. unit tended to trade rather quietly as attention centred on sterling. The pound was fixed at DM 3.8680 *compared with DM 3.9470 late on* Friday. Sterling's decline may have been further exacerbated by investors switching into gold. Within the EMS the Danish krone was fixed at DM 34.69 per DKr 100, well above its floor level within the system. On an ECU basis the Belgian franc weakened as pressure switched *from the krone,* after the recent rise in Denmark's bank rate, to the Belgian currency.

MILAN — Sterling *fell* sharply at the fixing on heavy selling to L1,737.80 from L1,775.30, while the dollar also weakened to L814.30 from L815.45. This came despite assistance from the Bank *of Italy.*

TOKYO — The dollar eased slightly against the yen yesterday to close at Y223.725, down from Friday's level of Y223.975. The U.S. unit reached a high of Y224.05 before profit taking became more widespread. Trading was generally quiet with the dollar maintaining a firmish undertone.

EMS EUROPEAN CURRENCY UNIT RATES

	ECU central rates	Currency amounts against ECU September 17	% change from central rate	% change adjusted for divergence	Divergence limit %
Belgian Franc ...	39.4582	40.2043	+1.89	+1.49	±1.53
Danish Krone ...	7.08592	7.22045	+1.90	+1.49	±1.635
German D-Mark	2.51064	2.50481	−0.23	−0.64	±1.1325
French Franc ...	5.78831	5.85356	+0.95	+0.15	±1.35
Dutch Guilder ..	2.72077	2.75246	+1.16	+0.76	±1.5075
Irish Punt	0.662638	0.668423	+0.87	+0.17	±1.665
Italian Lira	1148.15	1125.51	−1.98	−1.88	±4.0725

Changes are for ECU, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

THE POUND SPOT AND FORWARD

Sept. 17	Day's spread	Close	One month	% p.a.	Three months	% p.a.
U.S.	2.1260-2.1600	2.1510-2.1520	0.35-0.25c pm	1.67	1.08-0.98 pm	1.91
Canada	2.4730-2.5110	2.5015-2.5025	0.70-0.60c pm	3.12	1.75-1.65 pm	2.72
Nethlnd.	4.23-4.31	4.28¾-4.29¾	2½-1½c pm	4.55	5½-4½ pm	4.66
Belgium	61.70-62.85	62.50-62.60	12-2c pm	1.34	37-27 pm	2.06
Denmark	11.11-11.31	11.19½-11.20½	14-17ore dis	−16.61	24-27 dis	−9.10
Ireland	1.0280-1.0430	1.0362-1.0372	20-30p dis	−2.89	72-82 dis	−2.97
W. Ger.	3.85-3.93	3.89½-3.90½	2⅞-1⅞pf pm	7.31	7⅛-6⅛ pm	7.31
Portugal	105.40-107.00	106.50-106.80	30-80c dis	−6.19	130-230 dis	−6.75
Spain	140.50-142.70	142.00-142.10	110-160c dis	−11.40	340-440dis	−10.98
Italy	1,732-1,762	1,751-1,752	2½-1½lire pm	1.03	1½ pm-½ dis	0.11
Norway	10.65-10.83	10.76½-10.77½	2½-½ore pm	1.94	6-4 pm	1.86
France	9.00-9.15	9.09½-9.10½	2½-1½c pm	2.31	4½-3½ pm	1.76
Sweden	8.97-9.13	9.07½-9.08½	3-1ore pm	2.64	5½-3½ pm	1.98
Japan	475-488	480½-481½	3.25-3.00y pm	7.80	9.00-8.65 pm	7.34
Austria	27.75-28.25	28.05-28.10	20-10gro pm	6.41	50-40 pm	6.41
Switz.	3.46-3.54	3.50¾-3.51¾	4-3c pm	11.96	11¾-10¾ pm	12.24

Belgian rate is for convertible francs. Financial franc 65.20-65.25c pm. Six-month forward dollar 1.76-1.71c pm, 12-month 3.30-3.20c pm.

THE DOLLAR SPOT AND FORWARD

Sept. 17	Day's spread	Close	One month	% p.a.	Three months	% p.a.
UK†	2.1260-2.1600	2.1510-2.1520	0.35-0.25c pm	1.67	1.08-0.98 pm	1.91
Ireland†	2.0740-2.0770	2.0740-2.0770	0.90-0.70c pm	4.63	2.40-2.00 pm	4.24
Canada	1.1624-1.1638	1.1626-1.1629	0.08-0.05c pm	0.67	0.28-0.22 pm	0.83
Nethlnd.	1.9883-2.0015	1.9995-2.0015	0.57-0.47c pm	3.12	1.52-1.42 pm	2.94
Belgium	28.64-29.15½	29.07½-29.09	1c pm-1c dis	—	2 pm-par	0.14
Denmark	5.2015-5.2230	5.2015-5.2030	7.75-8.25ore dis	−18.45	14.5-15.0dis	−11.34
W. Ger.	1.8104-1.8117	1.8107-1.8117	0.91-0.81pf pm	5.70	2.47-2.37 pm	5.34
Portugal	49.55-49.80	49.57-49.67	20-30c dis	−6.05	65-105 dis	−6.85
Spain	66.03-66.08	66.03-66.07	60-80c dis	−12.72	185-205dis	−11.81
Italy	814.00-814.50	814.20-814.40	0.10-0.60lire dis	−0.44	3.40-3.90dis	−1.79
Norway	5.0040-5.0080	5.0060-5.0080	0.35-0.15ore pm	0.60	0.25pm-0.25dis	—
France	4.2295-4.2325	4.2295-4.2310	0.13-0.05c pm	0.24	0.33-0.43dis	−0.36
Sweden	4.2165-4.2205	4.2130-4.2200	0.75-0.55ore pm	1.85	0.50-0.30 pm	0.38
Japan	223.10-223.50	223.30-223.50	1.15-1.00y pm	5.77	3.10-2.96 pm	5.42
Austria	13.039-13.049	13.042-13.047	5.80-5.30gro pm	5.11	14.50-13.00pm	4.22
Switz.	1.6305-1.6315	1.6305-1.6315	1.49-1.44c pm	10.78	4.28-4.22 pm	10.44

† UK and Ireland are quoted in U.S. currency. Forward premiums and discounts apply to the U.S. dollar and not to the individual currency.

CURRENCY RATES

Sept. 14	Bank rate %	Special Drawing Rights	European Currency Unit
Sterling	14	0.596801	0.636150
U.S. $	10½	1.29834	1.38654
Canadian $ ..	12¼	1.50958	1.60909
Austria Sch ..	3¾	16.9524	18.0951
Belgian F	9	37.7889	40.3329
Danish K	11	6.79676	7.25189
D Mark	5	2.35480	2.51295
Guilder	8	2.58564	2.75971
French Fr. ...	9½	5.50496	5.87328
Lira	10½	1058.80	1129.90
Yen	5¼	290.698	310.318
Nrwgn. K	7	6.50468	6.94569
Spanish Pes...	8	85.7476	91.5493
Swedish Kr...	7	5.46565	5.86008
Swiss Fr	1	2.12064	2.26189

CURRENCY MOVEMENTS

Sept. 17	Bank of England Index	Morgan Guaranty changes %
Sterling	68.4	−36.8
U.S. dollar	85.0	−8.4
Canadian dollar	81.2	−16.6
Austrian schilling...	152.1	+22.0
Belgian franc	114.5	+14.0
Danish kroner	116.7	+3.9
Deutsche mark	[illegible]	+43.2
Swiss franc	200.6	+83.4
Guilder	124.3	+19.3
French franc	99.5	−7.0
Lira	55.6	−48.6
Yen	137.8	+26.5

Based on trade weighted changes from Washington agreement December, 1971 (Bank of England Index=100).

OTHER MARKETS

Sept. 17	£	$		£ Note Rates
Argentina Peso....	3080-3100	1430-1440	Austria..............	27½-28½
Australia Dollar...	1.9115-1.9215	0.8895-0.8920	Belgium..............	64½-65½
Brazil Cruzeiro...	62.12-62.32	28.85-28.95	Denmark............	11.10-11.30
Finland Markka...	8.27-8.29	3.8570-3.8590	France................	9.00-9.10
Greek Drachma...	79.560-81.472	37.10-37.40	Germany............	3.85-3.95
Hong Kong Dollar	10.8670-10.8406	5.0685-5.0715	Italy....................	1,770-1,820
Iran Rial	150.34-157.85	70-73½	Japan.................	477-487
Kuwait Dinar (KD)	0.589-0.599	0.2772-0.2775	Netherlands........	4.20-4.30
Luxembourg Frc.	63.05-63.15	29.07-29.09	Norway..............	10.70-10.85
Malaysia Dollar...	4.6190-4.6300	2.1630-2.1650	Portugal.............	104-111
New Zealand Dlr.	2.1865-2.1665	1.0040-1.0070	Spain.................	140½-143½
Saudi Arab. Riyal.	7.15-7.25	3.3585-3.3615	Switzerland........	3.45-3.55
Singapore Dollar.	4.6100-4.6215	2.1580-2.1610	United States	2.14½-2.16
Sth. African Rand	1.77-1.78	0.8315-0.8325	Yugoslavia..........	44½-46½

Rate given for Argentina is free rate.

EXCHANGE CROSS RATES

Sept. 17	Pound Sterling	U.S. Dollar	Deutschem'k	Japan'se Yen	French Franc	Swiss Franc	Dutch Guild'r	Italian Lira	Canada Dollar	Belgian Franc
Pound Sterling	1.	2.152	3.900	481.0	9.103	3.513	4.288	1752.	2.502	62.55
U.S. Dollar	0.465	1.	1.813	223.6	4.231	1.633	1.993	814.1	1.163	29.07
Deutschemark	0.256	0.552	1.	123.3	2.334	0.901	1.099	449.1	0.642	16.04
Japanese Yen 1,000	2.079	4.473	8.108	1000.	18.92	7.302	8.914	3641.	5.202	130.0
French Franc 10	1.099	2.364	4.285	528.4	10.	3.859	4.710	1924.	2.749	68.72
Swiss Franc	0.285	0.613	1.110	136.9	2.591	1.	1.221	498.5	0.712	17.81
Dutch Guilder	0.233	0.502	0.910	112.2	2.123	0.819	1.	408.5	0.584	14.59
Italian Lira 1,000	0.571	1.228	2.227	274.6	5.197	2.005	2.448	1000.	1.428	35.71
Canadian Dollar	0.400	0.860	1.559	192.2	3.639	1.404	1.714	700.0	1.	25.00
Belgian Franc 100	1.599	3.440	6.235	769.0	14.55	5.616	6.856	2800.	4.000	100.

EURO-CURRENCY INTEREST RATES

The following nominal rates were quoted for London dollar certificates of deposit: one month 12.20-12.30 per cent; three months 12.55-12.65 per cent; six months 12.05-12.75 per cent; one year 11.95-12.05 per cent.

Sept. 17	Sterling	U.S. Dollar	Canadian Dollar	Dutch Guilder	Swiss Franc	West German Mark	French Franc	Italian Lira	Asian $	Japanese Yen
†Short term.........	13⅝-13¾	11½-11¾	10½-11½	9⅛-9⅝	⅞-1	6⅞-7	11½-11⅝	10-12	—	6-6½
7 days' notice..	14¼-14½	11⅝-11⅞	10½-11½	9⅛-9⅜	1-1½	7-7⅛	11½-11¾	11½-12½	11⅜-11⁷⁄₁₆	6⅛-6⅜
Month	14¾-15⅛	12⅛-12⅜	11¼-11⅝	9⁷⁄₁₆-9⁹⁄₁₆	1⁷⁄₁₆-1½	7⅛-7¼	12¼-12½	13-14	12¼-12⅜	6⅝-7⅛
three months.....	14¾-15⅛	12⁷⁄₁₆-12⁹⁄₁₆	11¾-12⅛	9⅝-9¾	2⅛-2¼	7⅝-7¾	13-13¼	14-16	12¾-12⅞	7¼-7⅜
six months.......	14⅝-15	12⁷⁄₁₆-12⁹⁄₁₆	11⅞-12⅛	9⅜-9½	2⅜-2½	7⅝-7¾	13⅜-13⅝	14½-15½	12⅜-12½	7¼-7⅜
one year..........	14⅝-14¾	12⁵⁄₁₆-12⁷⁄₁₆	11⅝-11⅞	9½-9⅝	2⅞-3	7⅝-7⅞	13⅜-13⅝	15-16	12¼-12⅜	6⅞-7⅛

Long term Eurodollar: two years 11⁵⁄₁₆-11⁷⁄₁₆ per cent; three years 11¼-11⅜ per cent; four years 11-11¼ per cent; five years 10⅞-11 per cent; nominal closing rates. Short-term rates are call for sterling, U.S. dollars and Canadian dollars: two-day call for guilders and Swiss francs. Asian rates are closing rates in Singapore.

INTERNATIONAL MONEY MARKET

Italian bill issue

The Italian Treasury will increase its outstanding debt by L1.5 trillion at the next Treasury bill auction which closes on September 24. The increase in the amount of debt will help to drain liquidity, but yields are not expected to change significantly. Despite the upward trend in interest rates elsewhere in Europe the Italian Treasury has not yet taken steps to push up domestic rates while the lira remains relatively strong within the European Monetary System.

The Treasury is to raise L7.5 trillion through the issue of Treasury bills and certificates, partly to cover the maturity of L4 trillion worth of Treasury bills and L2 trillion of certificates; L3.6 trillion of the bills are held commercially, with the balance in the hands of the authorities.

The bills will be sold by auction, and will consist of L2 trillion of six-month bills and L2.75 trillion of 2-month bills; L1.25 trillion of two-year floating rate Treasury certificates will also be sold, priced at par from September 28, and L1.5 trillion of three-year floating rate certificates priced at 99.75 per cent from October 1. The certificates will pay interest on a six-month basis, reflecting the average yields on Treasury bills, with the coupon for the first six months guaranteed at a minimum of 6.15 per cent.

SINGAPORE — United Overseas Bank, one of the big four Singapore banks has increased its prime rate by ¼ per cent to 8¾ per cent. Last week Development Bank of Singapore became the first of the big four to raise its prime rate to 8¾ per cent. Several other banks also increased their rates to between 8¾ per cent and 9¼ per cent.

PARIS — Call money rose to 11¼ per cent from 11 per cent. One-month increased to 11⅝-11⅞ per cent from 11½-11¾ per cent, and three-month to 11⅞-12 per cent from 11¹³⁄₁₆-11¹⁵⁄₁₆ per cent. Six-month and 12-month funds were unchanged at 11⅞-12 per cent.

FRANKFURT — Call money rose to 7-7.10 per cent from 6.80-7.00 per cent, but fixed period rates were unchanged.

GOLD

Record level

Gold continued to rise in the London bullion market yesterday, and reached an all time closing high of $353¾-354, a rise of $8¾ an ounce from Friday. The metal opened at $350¾-351¼ and touched $351¾ during the morning before falling back on some profit taking to $349¾. However renewed demand soon saw the rate climb to an all time high during the afternoon at $353¾-$354¼.

In Paris the 12½-kilo bar was fixed at FFr 49,700 per kilo ($365.40 per ounce) compared with FFr 49,500 ($364.06) in the morning and FFr 48,790 ($357.91) in the morning.

In Frankfurt the 12½-kilo bar was fixed at DM 20,390 per kilo ($350.14 per ounce) against DM 20,165 ($345.90) previously.

	September 17		September 14	
Gold Bullion (fine ounce)				
Close	$353¾-354	(£164.2-164.5)	$344½-345¼	(£158.4-158.7)
Opening	$350¾-351¼	(£162.6-163.0)	$345-345¾	(£155.4-155.7)
Morning fixing...	$350.75	(£163.749)	$345.75	(£158.637)
Afternoon fixing	$351.75	(£164.408)	$345.80	(£158.333)
Gold Coins				
Krugerrand.........	$362¾-364¾	(£168¾-169¾)	$356-358	(£163¾-164¾)
Mapleleaf............	$379½-384½		$370½-375½	
New Sovereigns..	$90¾-90¾	(£42¼-43¼)	$88½-90½	(£40¾-41¾)
King Sovs...........	$108¾-110¾	(£50½-51½)	$108½-110½	(£50-51)
Victoria Sovs. ...	$116-118	(£54-55)	$115½-117½	(£53-54)
Fr20 Napoleon...	FFr415-425	(SFr160-165)	FFr414-424	(SFr160-164)
50 pesos Mexico	$436-437		$429-430	
100 Cor. Austria	$345-346		$337-338	
$20 Eagles........	$480-484		$480-485	
$10 Eagles........	$286-291		$286-291	
$5 Eagles..........	$241-246		$241-246	

UK MONEY MARKET

Small help

Bank of England Minimum Lending Rate 14 per cent (since June 12, 1979)

Longer term fixed period interest rates were firmer in the London money market yesterday, reflecting the weakness of sterling and the steady erosion of the differential between interest rates in the UK and the U.S. and *Europe.*

Day-to-day credit was in short supply and the authorities gave a small amount of assistance by buying a small number of Treasury bills from the discount houses, and by lending a small amount to one or two houses, overnight at Minimum Lending Rate *of 14 per cent.*

Banks brought forward small run-down balances, there was a small excess of revenue payments to the Exchequer over Government disbursements, and the market was also faced with the resale by the Bank of England of a small amount of eligible bank bills. On the other hand there was a small decrease in the note circulation and the houses were also helped by the redemption of 3 per cent Treasury stock 1979.

MONEY RATES

NEW YORK	
Prime Rate	12.75-13
Fed Funds	11.5625
Treasury Bills (13-week)	10.34
Treasury Bills (26-week)	10.23
GERMANY	
Discount Rate	5
Overnight Rate	7.05
One month	7.70
Three months	7.85
Six months	8.025
FRANCE	
Discount Rate	9.5
Overnight Rate	11.125
One month	11.4375
Three months	11.9375
Six months	11.9375
JAPAN	
Discount Rate	5.25
Call (Unconditional)	6.8125
Bills Discount (three-month)	7

LONDON MONEY RATES

Sept. 17 1979	Sterling Certificate of deposit	Interbank	Local Authority deposits	Local Auth. negotiable bonds	Finance House Deposits	Company Deposits	Discount market deposits	Treasury Bills ♦	Eligible Bank Bills ♦	Fine Trade Bills ♦
Overnight........	—	13-15½	—	—	—	13¾	13¼-14	—	—	—
2 days notice...	—	—	14⅛-14¼	—	—	—	—	—	—	—
7 days or	—	—	—	—	—	—	—	—	—	—
7 days notice...	—	13⅞-14	14¼-14⅜	—	14⅜-14⅞	14	13½	—	—	—
One month.......	14¹⁄₁₆-13¹⁵⁄₁₆	13⅞-14¹⁄₁₆	14⅛-14¼	15-14¾	14⅜	14⅜	13⅞	13⅞	14¹⁄₁₆-14⅛	14⅝
Two months.....	14⅛-14	14-14¹⁄₁₆	—	14⅞-14⅝	14⅛	—	13⅞	13⅞	14¼-14³⁄₁₆	14½
Three months..	14¼-14⅛	14⅛-14¼	14⅛-14⅛	14¼-13⅞	14⅛	14⅜	13¾	13⅞	14¹⁄₁₆-14¹⁄₁₆	14⅜
Six months.......	13⅞-13¾	13¹⁵⁄₁₆-14¹⁄₁₆	13⅞-14	13¾-13⅝	14¼	—	—	—	13¼	13⅞
Nine months....	13¹³⁄₁₆-13¹¹⁄₁₆	13¹³⁄₁₆-13¹⁵⁄₁₆	—	13¾-13⅝	14	—	—	—	—	—
One year.........	13¹¹⁄₁₆-13⅝	13⅝-13¾	13-13¼	13⅜-13½	13¾	—	—	—	—	—
Two years.......	—	—	13-13⅛	—	—	—	—	—	—	—

Local authority and finance houses seven days' notice, others seven days fixed. *Long-term local authority mortgage rates nominally three years 13-13⅛ per cent; four years 12⅞-13⅛ per cent; five years 12¹⁵⁄₁₆-13⅛ per cent. ♦Bank bill rates in table are buying rates for prime paper. Buying rates for four-month bank bills 13²³⁄₃₂ per cent; four-month trade bills 14⅛ per cent.

Approximate selling rate for one-month Treasury bills 13 15-64ths per cent; two-month 13 19-64ths-13⅜ per cent; three-month 13¹¹⁄₃₂ per cent. Approximate rates for one-month bank bills 14⁵⁄₃₂ per cent; two-month 14⁷⁄₃₂-14³⁄₁₆ per cent; and three-month 14⅛ per cent; one-month trade bills 14⅞ per cent; two-month 14⅝ per cent; and three-month 14⅞ per cent.

Finance Houses Base Rates (published by the Finance Houses Association) 14½ per cent from September 1, 1979. Clearing Bank Deposit Rates for small sums at seven days' notice 11½-12 per cent. Clearing Bank Rates for lending 14 per cent. Treasury Bills: Average tender rates of discount 13.4027 per cent.

WORLD VALUE OF THE POUND

The table below gives the latest available rates of exchange for the pound against various currencies on September 17, 1979. In some cases rates are nominal. Market rates are the average of buying and selling rates except where they are shown to be otherwise. In some cases market rates have been calculated from those of foreign currencies to which they are tied.

Exchange in the UK and most of the countries listed is officially controlled and the rates shown should not be taken as being applicable to any particular transaction without reference to an authorised dealer.

Abbreviations: (A) approximate rate, no direct quotation available; (F) free rate; (P) based on U.S. dollar parities and going sterling/dollar rate; (S) member of the sterling area other than Scheduled Territories; (T) tourist rate; (Bas) basic rate; (bg) buying rate; (Bk) bankers' rate; (cm) commercial rate; (cn) convertible rate; (fn) financial rate; (exC) exchange certificate rate; (k) Scheduled Territory; (nc) non-commercial rate; (nom) nominal; (or) official rate; (sg) selling rate.

PLACE AND LOCAL UNIT		VALUE OF £ STERLING
Afghanistan	Afghani	95.00
Albania	Lek	9.7910
Algeria	Dinar	8.2585
Andorra	French Franc	9.1025
	Spanish Peseta	142.05
Angola	Kwanza	67.763
Antigua (S)	E. Caribbean $	5.81
Argentina	Ar. Peso Free Rate	3,090
Australia (S)	Australian $	1.9165
Austria	Schilling	28.075
Azores	Portug. Escudo	106.65
Bahamas (S)	Ba. Dollar	2.1615
Bahrain (S)	Dinar	0.815
Balearic Isles	Spa. Peseta	142.05
Bangladesh (S)	Taka	34.52 (sg)
Barbados (S)	Barbados $††	4.303
Belgium	B. Franc	(cm) 62.55
		(fn) 65.225
Belize	B $	4.303
Benin	C.F.A. Franc	455⅛
Bermuda (S)	Bda $	2.1515
Bhutan	Indian Rupee	17.64 (sg)
Bolivia	Bolivian Peso	43.03
Botswana (S)	Pula	1.7815
Brazil	Cruzeiro ‡‡	62.22
Brit. Virgin Isles (S)	U.S. $	2.1515
Brunei (S)	Brunei $	4.61575
Bulgaria	Lev	1.9160
Burma	Kyat	14.475
Burundi	Burundi Franc	201.84
Cameroon Repub'c	C.F.A. Franc	455⅛
Canada	Canadian $	2.5020
Canary Islands	Spanish Peseta	142.05
Cape Verde Isle.	Cape V. Escudo	78.55
Cayman Islands (S)	Cay. Is. $	1.7929
Cent. Af. Empire	C.F.A. Franc	455⅛
Chad	C.F.A. Franc	455⅛
Chile	C. Peso	(Bk) 83.26
China	Renminbi Yuan	3.3325
Colombia	C. Peso	(F) 91.54
Comoro Islands	C.F.A. Franc	455⅛
Congo (Braz'ville)	C.F.A. Franc	455⅛
Costa Rica	Colon	18.503
Cuba	Cuban Peso	1.6296
Cyprus (S)	Cyprus £	0.7520
Czechoslovakia	Koruna	(com) 11.75
		n/c 22.50
		(T) 19.76
Denmark	Danish Krone	11.20
Djibouti	Fr.	365.0
Dominica (S)	E. Caribbean $	5.81
Dominican Repub.	Dominican Peso	2.1515
Ecuador	Sucre	(O) 53.10
		(F) 60.20
Egypt	Egyptian £	(U) 1.5825
Equatorial Guinea	Peseta	142.05
Ethiopia	Ethiopian Birr	(P) 4.4567
Falkland Islands (S)	Falkland Is. £	1.0
Faro Islands	Danish Krone	11.20
Fiji Islands	Fiji $	1.7966
Finland	Markka	8.28
France	French Franc	9.1025
French C'tyin Af*	C.F.A. Franc	455⅛
French Guiana	Local Franc	9.1025
French Pacific Is.	C.F.P. Franc	165.5
Gabon	C.F.A. Franc	455⅛
Gambia (S)	Dalasi	4.0
Germany (East)	Ostmark	3.90
Germany (West)	Deutsche Mark	3.90
Ghana (S)	Cedi	6.09 (sg)
Gibraltar (K)	Gibraltar £	1.0
Gilbert Islands	Australian $	1.9165
Greece	Drachma	80.516

PLACE AND LOCAL UNIT		VALUE OF £ STERLING
Greenland	Danish Kroner	11.20
Grenada (S)	E. Caribbean $	5.81
Guadaloupe	Local Franc	9.1025
Guam	U.S. $	2.1515
Guatemala	Quetzal	2.1515
Guinea Republic	Sily	40.74
Guinea Bissau		58.144
Guyana (S)	Guyanese $	5.486
Haiti	Gourd	10.7575
Honduras Repub.	Lempira	4.29
Hong Kong (S)	H.K. $	10.835
Hungary	Forint	(com) 77.30
		(T)(nc) 44.17
Iceland (S)	I. Krona	811.5
India (S)	Ind. Rupee	17.64 (sg)
Indonesia	Rupiah	1,344.7
Iran	Rial	153.75
Iraq	Iraq Dinar	0.64245
Irish Republic (K)	Irish £	1.0367
Israel	Israel £	60.40
Italy	Lira	1751.5
Ivory Coast	C.F.A. Franc	455⅛
Jamaica (S)	Jamaica Dollar	3.8372
Japan	Yen	481.0
Jordan (S)	Jordan Dinar	0.641
Kampuchea	Riel	2561.8
Kenya (S)	Kenya Shilling	15.775
Korea (Nth)	Won	1.9645 (‖)
Korea (Sth)	Won	1047.62
Kuwait (S)	Kuwait Dina	0.594
Laos	Kip Pot Po	860.5
Lebanon	Lebanese £	7.0192
Lesotho	S. African Rand	1.775
Liberia	Liberian $	2.1515
Libya	Libyan Dinar	0.6369
Liechtenstein	Swiss Franc	3.5125
Luxembourg	Lux Franc	62.55
Macao	Pataca	11.426
Madeira	Portug'se Escudo	106.65
Malagasy Republic	MG Franc	455⅛
Malawi (S)	Kwacha	1.75
Malaysia (S)	Ringgit	4.6245
Maldive Islands (S)	Mal Rupee	8.455
Mali Republic	Mali Franc	910.25
Malta (S)	Maltese £	0.7600
Martin que	Local Franc	9.1025
Mauritania	Ouguiya ‡	90.965
Mauritius (S)	M. Rupee	12.7312
Mexico	Mexican Peso	49.66
Miquelon	C.F.A. Franc	455⅛
Monaco	French Franc	9.1025
Mongolia	Tugrik	(O) 6.542 (‖)
Montserrat	E. Caribbean $	5.81
Morocco	Dirham	8.55
Mozambique	Moz. Escudo	65.096
Nauru	Australian Dollar	1.9165
Nepal	Nepalese Rupee	25.82
Netherlands	Guilder	4.2875
Netherland Antilles	Antillian Guilder	3.8511
New Hebrides	Franc.	147.11
	Aust. Dollar	1.9165
New Zealand (S)	N. Z. Dollar	2.1616
Nicaragua	Cordoba	21.35
Niger Republic	C. F. A. Franc	455⅛
Nigeria (S)	Naira	1.267516 (sg)
Norway	Norway Krone	10.77
Oman Sul'ate of (S)	Rial Omani	0.741
Pakistan	Pakistan Rupee	21.075
Panama	Balboa	2.1515
Papua N. Guinea (S)	Kina	1.5530
Paraguay	Guarani	266.44

PLACE AND LOCAL UNIT		VALUE OF £ STERLING
Peoples D. Repub. of Yemen (S)	S. Yemen Dinar	(A) 0.7347
Peru	Sol	excA) 504.03
Philippines	Philippine Peso	15.81
Pitcairn Islands (S)	£ Sterling	—
	New Zealand $	2.1615
Poland	Zloty	(Cm) 69.10
		(T) 69.10
Portugal	Portugu'se Escudo	106.65
Port Timor	Timor Escudo	106.65
Principe Islands	Portugu'se Escudo	106.65
Puerto Rico	U.S. $	2.1515
Qatar (S)	Qatar Ryal	8.02
Reunion Ile de la	French Franc	9.1025
Rhodesia	Rhodesian $	1.492
Romania	Leu	(Cm) 9.97
		(nc) T26.77
Rwanda	Rwanda Franc	208.75
St. Christopher (S)	E. Caribbean $	5.81
St. Helena	St. Helena £	1.0
St. Lucia	E. Caribbean $	5.81
St. Pierre	C.F.A. Franc	455⅛
St. Vincent (S)	E. Caribbean $	5.81
Salvador El	Colon	5.33
Samoa American	U.S. $	2.1515
San Marino	Italian Lire	1751.5
Sao Tome	Dobra	N/A
Saudi Arabia	Ryal	7.20
Senegal	C.F.A. Franc	455⅛
Seychelles	S. Rupee	13.33
Sierra Leone (S)	Leone	2.3505
Singapore (S)	Singapore $	4.61575
Solomon Islands (S)	Solomon Is. $	1.9073
Somali Republic	Somali Shilling	(A) 12.961
South Africa (S)	Rand	1.775
South West African Territories (S)	S. A. Rand	1.775
Spain	Peseta	142.05
Spanish ports in North Africa	Peseta	142.05
Sri Lanka (S)	S. L. Rupee	33.15
Sudan Republic	Sudan £ ⊕	n.a.
Surinam	S. Guilder	3.8511
Swaziland (S)	Lilangeni	1.775
Sweden	S. Krona	9.08
Switzerland	Swiss Franc	3.5125
Syria	Syria £	(A) 8.448
Taiwan	New Taiwan	(P) 77.464
Tanzania (S)	Tan. Shilling	17.80
Thailand	Baht	43.37
Togo Republic	C.F.A. Franc	455⅛
Tonga Islands (S)	Pa'anga	1.9073
Trinidad (S)	Trinidad & Tob' $	5.164
Tunisia	Tunisian Dinar	0.874 (sg)
Turkey	Turkish Lira	106.33
Turks & Caicos	U.S. $	2.1515
Tuvalu	Australian $	1.9165
Uganda (S)	Uganda Shilling	16.00
United States	U.S. Dollar	2.1515
Uruguay	Uruguay Peso	(cm) 17.41
		(fn) 17.59
Utd. Arab Emirates	U.A.E. Dirham	8.15
U.S.S.R.	Rouble	1.4720
Upper Volta	C.F.A. Franc	455⅛
Vatican	Italian Lire	1751.5
Venezuela	Bolivar	9.16
Vietnam	Dong	(O) 4.69
		(T) 4.82 (‖)
Virgin Islands U.S.	U.S. Dollar	2.1515
Western Samoa (S)	Samoan Tala	1.9047
Yemen	Ryal	9.70 (sg)
Yugoslavia	New Y Dinar	40.8852
Zaire Republic	Zaire	4.468267
Zambia	Kwacha	1.695

*That part of the French community in Africa formerly French West Africa or French Equatorial Africa. † Rupees per pound. ‡ General rates of oil and iron exports 90.363. Based on gross rates against Russian rouble. **Rate is the transfer market (controlled). †† Rate is now based on 2 Barbados $ to the dollar. ‡‡ Now one official rate. (U) Unified Rate. Applicable on all transactions except countries having a bilateral agreement with Egypt, and are not members of IMF (‖) Based on cross rates against Russian rouble. ♦ Incentive Rate.

Fresh early Wall St. advance in active trade

INVESTMENT DOLLAR PREMIUM
$2.60 to £1—32¼% (31½%)
Effective $2.1515 9⅞% (9⅝%)

HELPED BY news that the United Auto Workers and *General Motors have* reached a tentative contract settlement, avoiding a strike, Wall Street scored a fresh advance in further active early dealings yesterday.

However, the market was some way below its best level at mid-session, with the Dow Jones Industrial Average recording a fresh net gain of 5.03 at 884.13 at 1 pm, after touching 886.77 at *11 am. The NYSE All Common* index was 25 cents higher at $62.33, after reaching $62.50, while rises led falls at mid-session by a four-to-three margin. Turnover came to 27.04m shares, against last Friday's 1 pm figure of 28.71m.

Closing prices and market reports were not available for this edition.

Despite the market's bullish response, analysts said they expected that the settlement will be viewed as inflationary when *details become known* and thus depress market sentiment.

Money market analysts have already predicted that the settlement will lead to higher interest rates.

Active **General Motors** rose ⅜ *to* $62¼ on the *contract news.* However, Chrysler, whose financial assistance plan, submitted over the weekend, was rejected by the Government, eased ¼ to $7⅞.

IBM gained 1¾ to $69¾. The Justice Department said it is willing to discuss settlement of its anti-trust case against IBM.

Trans World picked up 1⅛ to $24⅞. Texas International Airlines recently purchased a stake in Trans World.

Weyerhaeuser moved up ⅜ to $32⅞ on predicting higher annual net profits. **McGraw-Edison**, *however, receded $1 to $29¾. It* said it now holds 95 per cent of the stock of Studebaker-Worthington, unchanged at $51½.

Oak Industries shed ⅜ to $29½. The company is planning to offer 850,000 shares of its Common stock.

Responding to Gold hitting another record high yesterday, **Handy and Harman** rose $2 to $29⅞, **Engelhard Minerals** ⅝ to $49⅞, ASA ⅜ to $27⅞ and **Campbell Redlake** ⅜ to $23.

THE AMERICAN SE Market Value Index was 0.34 higher at 226.26 at 1 pm after another sizeable volume of 3.40m shares (3.27m).

Active **Bowmal Instrument** climbed 1¼ to $5⅝. It was mentioned favourably in a weekly business paper. **Imperial Oil** "A" *rose $1 to $38½.* Imperial expects the Alberta Government to permit the company to start its Cold Lake heavy oil project by the year end.

Husky Oil lost 2¼ to $64¼ after stating last week that it knew of no reason for the recent sharp rise in its share price.

Canada

Markets remained buoyant yesterday morning in heavy trading. The Toronto Composite index climbed 5.1 more to 1730.0 at noon, while the Golds index *advanced 17.6 to 2,114.7* and Oils and Gas 13.5 to 3,374.7. In Montreal, Utilities put on 0.49 to 249.35 and Papers 0.52 to 178.65.

Bell Canada, the most active Toronto Industrial, shed ⅛ to C$21⅛ on 181,031 shares.

Among Oil issues, **Alberta Gas "A"** gained ⅜ to C$27¼. **Moreen** ½ to C$30⅜ and **Hudson's Bay Oil** 1½ to C$92.

Abitibi Paper, which announced a dividend increase, hardened ¼ to C$20½.

Australia

Markets remained very strong generally yesterday despite some profit-taking in the afternoon session, and the Sydney All Ordinaries index advanced 4.18 more to a new all-time high *of 676.77.*

The election of a Liberal Government in the South Australian State election gave sharp gains to companies with uranium projects in the State and also boosted shares of gas producers.

Western Mining, up 22 cents at A$3.60, and other companies with uranium interests in the State rose sharply.

Participants in the Beverley uranium venture, now considered a likely starter, forged ahead, with **Oilmin** adding 27 cents at A$1.25, **Petromin** 32 cents at 82 cents and **Transoil** 21 cents at 92 cents.

Uranium stocks involved in the Northern Territory projects, however, were steady to easier *after sharp falls* last Friday when the Australian Council of Trade Unions Congress voted to maintain bans on uranium mining and exports.

Among South Australian gas producers, **Vamgas** advanced 7 cents to A$2.15 and **Santos** 29 cents to A$5.14, while Santos's major shareholder, **Bond Corporation**, moved ahead 14 cents to A$1.51.

BHP rose 20 cents to A$10.35, while Coal stocks were also well supported, with **Howard Smith** gaining 22 cents to A$2.68 and **Utah** 10 cents to A$4.25.

BH South reacted 20 cents to A$2.70 after reporting another, although reduced, loss.

Tokyo

After a firmer start, the market reacted on profit-taking to leave a majority of issues lower on the day. Business was moderate, with volume on the First Market section reaching only 200m shares, compared with last Friday's 300m.

A dealer commented that investors were showing caution over the rapid pace of price increases last week when the Nikkei-Dow index hit an all-time high. Yesterday, the Nikkei-Dow Jones Average lost 16.88 to 6,438.12, while the Tokyo SE index shed 0.65 to 454.59 and declines outnumbered gains by 369 to 244 at the close.

Leading **Electricals, Precision Machinery Manufacturers** and **Pharmaceuticals** closed on a weaker note, with **Sony** shedding Y60 to Y1,910 and **Takeda Chemical** Y8 to Y502.

Some speculative issues such as Trading Houses and Oil stocks were initially bought on news that promising oil fields have been discovered in the Continental Shelf off the North-eastern coast of Sakhalin, but these sectors were mixed on balance.

Some Steels attracted institutional buying with **Nippon Steel**, Y122, and **Kawasaki Steel**, Y127, gaining Y1 apiece.

Germany

Share prices finished with mixed movements on balance after a session which brokers said started on a quietly easier note but livened up as some institutional and foreign investors entered the market. Brokers added that they suspected British inerests of shopping on the German stock markets to hedge against the rapidly weakening pound. The Commerzbank index was a mere 1.5 down on the day at 765.6.

Gains were made by Banks and some Machine Manufacturers. **Dresdner Bank** and **Commerzbank** put on DM 3 apiece, while **Deutsche Bank** were a net 50 pfennigs firmer. In the Machine sector, **KHD** and **Mannesmann** each added DM 1, but **MAN** receded DM 2 and **Babcock** DM 1.50.

Predictions by an industry association that production of construction - related machinery would decline in the second half of 1979 did not have a uniform effect on Machine share trading, observers noted, and said the prediction was probably not a significant factor in trading.

Among Stores, **Karstadt** added DM 1.50, while **Kaufhof** hardened 50 pfennigs. German newspapers reported over the week-end that Kaufhof had excellent results in a jubilee sale to mark the department store chain's 100 years anniversary.

Motors were reactionary after recent strength, with **BMW** losing DM 1 and **Volkswagen** DM 1.30.

Public Authority Bonds eased up to 15 pfennigs in small trading. The Bundesbank sold DM 1m nominal of paper after selling DM 33.8m last Friday. Mark-denominated Foreign Loans were steady after recent losses.

Hong Kong

In the wake of a strong overnight London performance for Hong Kong stocks, the market here staged an initial advance, but a good deal of the gain was *later eroded by profit-taking as* attention turned to the Gold market. The Hang Seng index, up 8 points at its best of the day, closed a net 3.96 higher at 599.87 after a fairly active trading session.

A boost to sentiment came from last Friday's statement by the Colony's financial secretary that GDP here should grow by 12 per cent this year and not 10 per cent as *forecast in* the Budget.

News that **Hutchison** may revise its bid for **China Provident** also aided the early tone, but there was subsequent market disappointment when the session drew to a close with no new terms emerging. **Hutchison** finished 15 cents down at HK$5.10, while **China Provident** remained suspended.

NOTES: Overseas prices shown below exclude $ premium. Belgian dividends are after withholding tax.
◆ DM 50 denom. unless otherwise stated, yields based on net dividends plus tax.
♥ Pta 500 denom. unless otherwise stated.
♣ DKr 100 denom. unless otherwise stated.
♠ SwFr 500 denom. and Bearer shares unless otherwise stated. ¶ Y50 denom. unless otherwise stated. $ Price at time of suspension. *a* Florins. *b* Schillings. *c* Cents. *d* Dividend after pending rights and/or scrip issue. *e* Per share. *f* Francs. *g* Gross div. %. *h* Assumed dividend after scrip and/or rights issue. *k* After local taxes. *m* % tax free. *n* Francs including Unilac div. *p* Nom. *q* Share split. *s* Div. and yield exclude special payment. *t* Indicated div. *u* Unofficial trading. *v* Minority holders only. *y* Merger pending. * Asked. † Bid. § Traded. ‡ Seller. *z* Assumed. *xr* Ex rights. *xd* Ex dividend. *xc* Ex scrip issue. *xa* Ex all. Δ Interim since increased.

NEW YORK

Stock	Sept. 14	Sept. 13
Abbotts Lab.	36	35¾
AM International	17¼	17⅛
Adobe Oil & Gas	38¾	37⅞
Aetna Life & Ga.	32⅞	33⅛
Air Products	33¼	32¼
Alcan Aluminium	40⅞	40⅛
Control Data	47⅜	46⅜
Cooper, Indus.	57¼	57⅛
Corning Glass	61⅛	60
CPC Int'mation'l.	54¼	53⅞
Crane Co.	34⅛	33¾
Crocker Natl.	33	33⅛
Crown Zellerb'h.	40¾	40
Cummins Engine	33⅛	35¼
Johns Manville	26⅛	26
Johnson Johnson	74⅛	73⅞
Johnson Control	28	26⅛
Jostens	19⅞	20⅛
Joy Manufacturing	31⅞	31¾
K. Mart	27⅛	27⅛
Kaiser Aluminum	20¾	20⅜
Kaiser Industries	2⅛	2⅛
Revlon	51⅞	50⅜
Reynolds Metals	36¼	35⅝
Reynolds (R.J.)	63¼	63
Rich'son Merrell	24⅛	24
Rockwell Inter	42⅛	41¾
Rohm & Haas	46⅛	45
Rolm	32¾	31⅝
Royal Dutch	75⅜	75⅛
Williams Co.	23¾	22¾
Wisconsin Elect.	25⅜	25¼
Woolworth	29¾	29
Wyly	6⅛	6¼
Xerox	65⅛	64⅛
Zapata	23⅜	22¼
Zenith Radio	13⅛	12¾
U.S. Treas. 4% 80	†97	†97
USTreas4¼%75/85	†80¾	†80⅞
Comm. Satellite	42¼	41¾
Compugraphic	38⅜	38⅛
C'mputer Scienc	15¾	15⅞
Conn Life Ins.	37⅛	37
Conoco	40⅞	40⅛
Conrac	16⅛	16
Con. Edison NY	23⅛	23¼
Consol Foods	24⅝	24⅝
Consol Nat. Gas	44⅜	44¼
Consumer Power	22¼	22
C'ntinental Gr'p.	30⅛	30⅜
Continental Tele	17⅛	17⅛
IBM	67⅞	66¾
Intl. Flavour	21⅞	22
Intl. Harvester	42¾	42¾
Intl. Min.&Chem.	56	56
Intl. Multifoods	21	21¼
Inco	21¼	21⅛
Intl. Paper	44¾	44¼
Intl. Rectifier	22⅜	22⅛
Intl. Tel. & Tel.	38⅞	28⅝
Iowa Beef	23	22⅞
IU International	12⅝	12¾
Jim Walter	35	34⅞
Potomac Elec.	13	[illegible]
PPG Industries	38	[illegible]
Procter Gamble	77¼	[illegible]
Pub. Serv. Elec.	20⅛	[illegible]
Pullman	39¼	[illegible]
Purex	16⅞	[illegible]
Quaker Oats	27	[illegible]
Rapid American	17⅛	[illegible]
Raytheon	57⅜	[illegible]
RCA	24⅜	[illegible]
Republic Steel	27½	[illegible]
Resorts Intl.	39½	[illegible]

[illegible]

CANADA

[illegible]

GERMANY ◆

Sept. 17	Price DM.	+ or −	Div. %	Yld. %
AEG	45.5	−0.4	—	—
Allianz Versich.	475	−5	31.2	3.3
BHF-BANK	199	−0.5	28.12	7.0
BMW	193.5	−1	28.12	7.3
BASF	138.1	+0.1	18.76	6.8

[illegible]

TOKYO ¶

Sept. 17	Prices Yen	+ or −	Div. %	Yld. %
Asahi Glass	394		14	2.0
Canon	599	+2	12	1.0
Casio	789	+3	25	1.6
Chinon	367		20	3.0
Dai NipponPrint	569	−2	18	2.0
Fuji Photo	561	−1	15	1.1

[illegible]

AUSTRALIA

[illegible]

STOCKHOLM

[illegible]

OSLO

[illegible]

JOHANNESBURG

[illegible]

AMSTERDAM

[illegible]

BRUSSELS/LUXEMBOURG

[illegible]

SWITZERLAND ◆

[illegible]

COPENHAGEN ♣

[illegible]

MILAN

[illegible]

VIENNA

[illegible]

PARIS

[illegible]

BRAZIL

[illegible]

Financial Rand U.S.$0.89 (Discount of 25½%)

SPAIN ♥

[illegible]

Indices

NEW YORK—DOW JONES

	Sept. 14	Sept. 13	Sept. 12	Sept. 11	Sept. 10	Sept. 7	1979 High	1979 Low	Since Compil't'n High	Since Compil't'n Low
◆ Industr'ls	879.10	870.75	[illegible]	869.71	[illegible]	874.15	[illegible]	[illegible]	1051.70 (11/1/73)	41.22 (2/7/32)
H'me B'nds	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—
Transport.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.32 (8/7/32)
Utilities	107.08	107.40	[illegible]	107.71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.58 (28/4/42)
Trading Vol 000's	42,080	35,000	[illegible]	[illegible]	[illegible]	34,440	—	—	—	—

◆ Day's high 884.56 low 868.60

	Sept. 7	Aug. 31	Aug. 17	Year ago (approx)
Ind. div. yield %	5.67	5.56	5.07	5.21

STANDARD AND POORS

	Sept. 14	Sept. 13	Sept. 12	Sept. 11	Sept. 10	Sept. 7	1979 High	1979 Low	Since Cmpil't'n High	Since Cmpil't'n Low
‡Indust'ls	121.25	120.12	120.07	118.84	120.42	118.85	[illegible]	[illegible]	134.84 (11/1/73)	[illegible]
§Composite	[illegible]	107.86	107.82	107.51	[illegible]	107.56	[illegible]	[illegible]	[illegible]	4.40 (1/6/32)

	Sept. 13	Sept. 6	Aug. 29	Year ago (approx)
Ind. div. yield %	5.05	5.12	4.99	4.63
Ind. P/E Ratio	12.92	7.87	8.49	[illegible]
Long Gov. Bond Yield	9.11	9.11	8.96	[illegible]

N.Y.S.E. ALL COMMON

Sept. 14	Sept. 13	Sept. 12	Sept. 11	1979 High	1979 Low
62.08	61.53	61.46	61.29	62.40 (5/10)	53.88 (27/2)

Rises and Falls	Sept. 14	Sept. 13	Sept. 12
Issues Traded	1,882	1,889	1,942
Rises	994	1,738	881
Falls	486	705	664
Unchanged	372	426	397
New Highs	—	69	50
New Lows	—	20	31

MONTREAL

[illegible]

TORONTO Composite

[illegible]

JOHANNESBURG

[illegible]

[illegible]

FRIDAY'S ACTIVE STOCKS

[illegible]

EUROPEAN OPTIONS EXCHANGE

[illegible]

BASE LENDING RATES

A.B.N. Bank	14 %	■ Hill Samuel	§14 %
Amro Bank	14 %	C. Hoare & Co.	†14 %
American Express Bk.	14 %	Julian S. Hodge	15 %
Henry Ansbacher	14 %	Hongkong & Shanghai	14 %
A P Bank Ltd.	14 %	Industrial Bk. of Scot.	14½%
Associates Cap. Corp.	14 %	Keyser Ullmann	14 %
Banco de Bilbao	14 %	Knowsley & Co. Ltd.	15½%
Bank of Credit & Cmce.	14 %	Lloyds Bank	14 %
Bank of Cyprus	14 %	London Mercantile	14 %
Bank of N.S.W.	14 %	Edward Manson & Co.	15 %
Banque Belge Ltd.	14 %	Midland Bank	14 %
Banque du Rhone et de la Tamise S.A.	14½%	■ Samuel Montagu	14 %
Barclays Bank	14 %	■ Morgan Grenfell	14 %
Bremar Holdings Ltd.	15 %	National Westminster	14 %
Brit. Bank of Mid. East	14 %	Norwich General Trust	14 %
■ Brown Shipley	14 %	P. S. Refson & Co.	14 %
Canada Perm't Trust	14 %	Rossminster	14 %
Cayzer Ltd.	14 %	Ryl. Bk. Canada (Ldn.)	14 %
Cedar Holdings	14 %	Schlesinger Limited	14 %
■ Charterhouse Japhet	14 %	E. S. Schwab	15 %
Choulartons	14 %	Security Trust Co. Ltd.	15 %
C. E. Coates	14 %	Shenley Trust	16 %
Consolidated Credits	14 %	Standard Chartered	14 %
Co-operative Bank	*14 %	Trade Dev. Bank	14 %
Corinthian Secs.	14 %	Trustee Savings Bank	14 %
Credit Lyonnais	14 %	Twentieth Century Bk.	15 %
The Cyprus Popular Bk.	14 %	United Bank of Kuwait	14 %
Duncan Lawrie	14 %	Whiteaway Laidlaw	14½%
Eagil Trust	14 %	Williams & Glyn's	14 %
English Transcont.	14 %	Yorkshire Bank	14 %
First Nat. Fin. Corp.	15½%		
First Nat. Secs. Ltd.	15½%		
■ Antony Gibbs	14 %		
Greyhound Guaranty	14 %		
Grindlays Bank	‡14 %		
■ Guinness Mahon	14 %		
■ Hambros Bank	14 %		

■ Members of the Accepting Houses Committee.
* 7-day deposits 11½%, 1-month deposits 11¾%.
† 7-day deposits on sums of £10,000 and under 11½%, up to £25,000, 12% and over £25,000 12¼%.
‡ Call deposits over £1,000 11½%.
§ Demand deposits 11½%.

COMMODITIES AND AGRICULTURE

Tungsten pact talks break down

By Brij Khindaria in Geneva

NEGOTIATIONS HERE to conclude an international commodity agreement (ICA) for tungsten have broken down and are unlikely to resume in the near future.

The break-down occurred because of continuing wide differences of opinion between major producers and consumers of this metal, which is widely used in armaments manufacture.

An expensive metal, obtained from wolframite and scheelite, tungsten is used in making wre, rod and plate for lamps, electronics parts and electrical parts, as well as steel alloys and carbide materials.

The main tungsten producers—China, Bolivia, Australia, Mexico and Thailand—want an agreement containing substantive and binding economic clauses designed to create a reserve stock system. This would be used to maintain the world price of a representative grade of tungsten between agreed *maximum and minimum* limits.

The main consumers—led by the U.S., Britain, West Germany, Japan and Sweden—want to go no further than establishing an informal forum for consultations among consumers and producers. Both sides would meet periodically to discuss general issues concerning the tungsten market such as estimates of supply and demand, forecasts of price movements, trends and other indicators of market activity.

Silver surges to new peak

BY JOHN EDWARDS, COMMODITIES EDITOR

SILVER CONTINUED its upward surge in London yesterday, encouraged by the new rise in gold and the fall in the value of sterling. Following the trend set in New York, silver opened at a record level with the bullion market spot quotation being raised by 32.35p to 628.65p troy ounce. The uptrend was maintained in later dealings with the cash price on the London Metal Exchange closing at over 640p.

The market remains highly nervous after the tremendous rise in price. But there is a distinct reluctance to sell in present conditions so any buying interest meets little resistance.

The continued rise in gold and silver, and the weakness of the pound, were the dominant influences in base metal markets too. Copper prices moved up particularly strongly. Cash wirebars climbed steadily all day closing £26.5 higher at £929 a tonne.

The upward move was boosted by news that copper stocks held in LME warehouses fell marginally—by 525 tonnes to a total of 157,825 tonnes—when a rise in stocks had been generally expected.

Tin prices were also higher on the trend in silver, and a decline in warehouse stocks—down by 105 to 3,405 tonnes. These more than offset another dip in the Penang market over the weekend.

Other metals were generally firmer, with the notable exception of lead. There was an unexpected increase of 850 tonnes in lead stocks raising total holdings to 27,000 tonnes.

Indian ban

As expected, zinc stocks fell by 475 to 51,275 tonnes and aluminium by 500 to 13,900 tonnes. Nickel stocks rose again, by 24 to 6,408 tonnes, while LME silver holdings increased by 300,000 to 17,580,000 ounces.

Our Calcutta correspondent writes: Silver prices in all the major trading centres in India have soared to all-time highs in line with the trend in London and New York although silver exports from the country continue to be prohibited.

The rise is clearly speculative anticipating a relaxation of the ban on exports in the near future.

The Indian Government's decision that the export of products wholly or mainly of silver, or with more than 50 per cent silver content, will be permitted in respect of all contracts which were concluded with foreign buyers before last March has lent some credence to rumours that New Delhi is considering resumption of silver exports. It would prefer to take advantage of the high international silver prices rather than let large-scale smuggling out of the country continue.

Australian wool stocks down again

MELBOURNE — Australian Wool Corporation (AWC) stocks fell further to about 274,000 bales at the end of August from 315,600 at the end of July and 852,000 a year earlier.

In its August "Monthly Perspective" newsletter, the AWC noted inquiries continued to be strong, despite the European wool auctions, with sales totalling over 40 000 bales.

Main interest centred on medium and coarser Merino wool types.

Wool exports rose to 702.96m kilos in the 1978-79 season ended June 30, an increase of 16.9 per cent compared with the previous season, the AWC said.

Japan took 11.2 per cent more at 198.75m kilos, while the Soviet Union took 85.57m kilos—up 7.2 per cent on 1977-78.

Italy remained the third largest importer, taking 63.69m kilos, an increase of 4.2 per cent.

Japanese purchases of Australian wool in the first month of the current 1979-80 season rose 79.3 per cent above the year-ago level to 40,000 bales. But AWC noted that July does not always provide a reliable guide to Japanese purchases in subsequent months.

Reports from Japan show the overall level of wool textile activity is still relatively subdued despite recent improvements.

AWC noted the improvement was due to stock adjustment rather than consumer spending, which remains sluggish.

Reuter

EEC AGRICULTURE

Milk surplus could ruin farmers

BY MARGARET VAN HATTEM IN LUXEMBOURG

EUROPE'S FARMERS, for once, appear to be a step ahead of their farmer ministers in realising that the goose that the goose that lays their golden eggs is at death's door. A confidential working document circulating within COPA, the EEC farmers' organisation, warns members that over-production in the milk sector is leading straight to an overhaul of the whole price support system which could hit some of them very hard.

It points out that milk now takes up 45 per cent of farm price support funds, and that this is the biggest single factor behind the growing likelihood that the community will run out of money in 1981.

Unless effective measures are taken now, it warns, there is a very big risk that EEC Governments may decide either to cut the milk price or to weaken the whole support system, hitting non-dairy sectors at the same time.

The situation has been clear to most for along time, although it did not prevent farm ministers last June from raising all prices except milk by 1.5 per cent, and from rejecting the proposed higher milk tax that might have helped curb ever rising production.

But, notes the COPA paper, it will be "politically difficult" for ministers to continue the good work by raising prices next year if something is not done quickly about milk.

Rather than leave it to the ministers, who may start tampering with "those parts of the Common Agricultural Policy to which COPA and its members are particularly attached" the organisation has made a study of the various solutions to the problem now before the EEC Commission. The Commission plans to present major proposals for reforming the dairy sector some time next month. COPA evidently hopes to get in with some proposals of its own before the Commission makes up its mind—or at least to steer the Commission gently away from the more drastic measures.

The working document makes no explicit recommendations concerning the various alternatives, but an unstated preference can be detected for voluntary rather than compulsory measures. These voluntary measures include various payments to farmers to encourage them to slaughter dairy cows, switch to beef production, reduce their milk deliveries or get off the land.

Some of these financial incentives have been operating within the EEC for some time, with little impact on the steadily increasing milk output. But, suggests COPA, if farmers could be paid more for not producing milk, they might produce less.

The compulsory measures discussed include a continued milk price freeze, milk cuts, a slightly higher milk tax, income aids, limits on investment aids, higher protein feed prices, quotas and what it delicately refers to as "quantums."

The paper rules out "quotas", that is fixed limits on each individual producer, as impossible to administer. But it devotes several pages to "quantums", which it defines as a variable price support system, with the degree of support linked to production levels.

These could be fixed on a Community-wide basis, so that once Community deliveries had reached a certain level, the price would automatically drop. Alternatively, they could be fixed individually, either on the basis of a farmer's previous output, or more generally, with a certain price for the first 100,000 kilos delivered, a little less for the next 100,000 and so on.

A Community wide system, says the paper, would be the easiest to run but would hit hardest those farmers most reliant on EEC intervention. A totally individualised scheme would be the hardest to run while the more general system would be far less effective, and would hit some regions much harder than others.

Coffee producers get together

BY RIK TURNER IN SAO PAULO

DISILLUSIONED WITH the International Coffee Organisation (ICO) incapacity to promote price agreements between exporting and consuming countries, the two major coffee producers, Brazil and Colombia, are seeking ways of co-ordinating common action by all producing countries, either within or outside the ICO framework.

This was the overall impression left by the week-long visit of Sr. Arturo Jaramillo, president of the National Coffee Growers Association of Colombia, to Brazil in a warm-up for the next ICO Council meeting in London on September 24.

Sr. Jaramillo met President Figueiredo and Sr. Octavio Rainho, president of the Brazilian Coffee Institute, as well as other members of the Government and representatives of the coffee trade.

His mission here was made clear in the joint interview he gave with Sr. Rainho, in which they both criticised ICO and spoke of a common front by producing countries on prices, quotas and market policy.

Of key importance in the producing countries' efforts to maintain stable prices on the world market is the so-called "Bogota Fund." This consists of a fund of $140m set up by eight Latin American producers' associations in August, 1978, to stabilise prices by means of intervention on the London and New York futures markets.

Independent of the ICO, the fund could form the nucleus of an alternative more representative of producers' aspirations should the organisation continue to prove unsatisfactory to them.

Sr. Jaramillo went so far as to suggest the formation of a cartel of coffee-exporting countries, along the lines of OPEC.

● The opening session of the ICO executive board meeting ended in London yesterday morning at the beginning of two weeks of talks

Welsh increase sheep flocks

By Robin Reeves

WELSH FARMERS have been increasing their sheep flocks at the expense of cattle, according to a new Welsh Office publication, Welsh Agricultural Statistics. It shows that between June 1975 and June 1977, the total number of sheep and lambs in Wales increased by some 6 per cent to 7.1m. By contrast, the number of cattle and calves fell by 5 per cent to 1.4m.

There was also a move out of poultry and pigs over the same period. The poultry flock fell by 4 per cent to 7.4m, while the pig herd was down by 6 per cent to 146,000.

The new figures also show a move out of arable crops in favour of permanent pasture. Between 1973 and 1977 the area of arable land fell by 6,000 hectares, while that of permanent grass increased by 23,000 hectares.

Abaca target levels increased

ROME — After suspending indicative price levels for Abaca last April governments of major trading countries have reinstated them at substantially higher levels, according to the UN Food and Agriculture Organisation (FAO).

Indicative prices are an informal market mechanism, suggesting a range of prices high enough to be remunerative to farmers and low enough to compete with substitute fibres.

Abaca is a tropically-grown hard fibre used mainly for speciality papers such as tea bags and stencil sheets. It is also spun into cordage.

In an emergency consultation held here last week, the Philippines, the main exporter, agreed with EEC countries and Japan to reinstate indicative prices by adopting a ceiling and a floor band 25-30 per cent higher than the price range in force until April when prices were temporarily suspended at the 14th session of the FAO inter-governmental group on hard fibres.

The governments also agreed that single floor and ceiling price levels would again come into effect after Abaca trade returned to normal in the autumn.

Using a composite price of the three major abaca grades, the new indicative price ceiling ranges between $925-$962 per ton cif. European ports, up from $740 per ton in April, while the "floor" ranges between $684-$711 per ton, up from $547.

Bangladesh sets jute 'floor' price

NEW DELHI — The Bangladesh Government has taken steps to ensure a minimum price of 115 takas (£3.33) per maund (82 lbs) and has launched a 1bn Taka programme to buy jute directly from growers and to make cash advances against jute stocks until prices improve, the Press Trust of India reported.

It said 400 jute purchasing centres were in operation and 3m maunds of jute had already been purchased by Government agencies up to last week.

Reuter

UK dairy profits under fire

BY JOHN CHERRINGTON, AGRICULTURE CORRESPONDENT

DAIRY FARMERS will be facing a severe attack on their margins over the next few years. Prices are unlikely to be raised, there is no further scope for "green pound" devaluations and cost inflation will reduce revenues of even the most profitable businesses before too long.

How to overcome these conditions will be the theme of a series of conferences during the autumn sponsored jointly by BOCM Silcock and the Midland Bank. Giving a resume of the scheme in London yesterday Professor Peter Wilson, BOCM's chief agricultural adviser stated that herd owners should concentrate on improving the productivity of their herds by maximising herd numbers, yields, and the utilisation of pastures. Every herd owner should have some capacity for increasing efficiency.

Dr. Robert Bruce, general *manager (Agriculture) of the* Midland Bank pointed to the increase of the Community's milk surplus which looked like continuing. He also stressed the financial consequences of the present situation which could lead to a farm's profit falling from £12,000 to less than £2,000 over the next two years.

The warnings are well founded, but the advice given which basically means encouraging production of more milk could lead to even more problems in the future. Britain is no longer an island, the Community surplus is common to all members. Any schemes designed to reduce the burden of this surplus by quota, price reduction and so on will intensify the squeeze on margins.

BRITISH COMMODITY MARKETS

BASE METALS

COPPER—Moved ahead on the London Metal Exchange, mainly reflecting the weakness of sterling, but also aided by the unexpected fall in warehouse stocks. After opening at £908 forward metal gained ground all day to close the late kerb at £925. Turnover 15,950 tonnes.

COPPER	a.m. Official	+ or —	p.m. Unofficial	+ or —
	£	£	£	£
Wirebars				
Cash	919-20	......	928-30	+26.5
3 months	914-5	—1	924-5	+22
Settlem't	920	......	—	......
Cathodes				
Cash	889-90	—4	906-7	+35
3 months	898.5-900	—5.5	907-8	+29
Settlem't	890	—4	—	......
U.S. Smt.	—	......	*90	—3.25

Amalgamated Metal Trading reported that in the morning cash wirebars traded at £918, 19, three months £917, 18, 17, 16.5, 16, 15, 14, 15, 16, 17, 16, 15, 14, 13, 11, 12, 13, 14. Cathodes, cash £896, 97, 900, three months £897. Kerb: Wirebars, three months £915, 16, 17, 18, 15, 14, 15. Afternoon: Wirebars, three months £922, 23, 22, 21, 22, 23, 23.5, 24. Cathodes, cash £906, 07, three months £908. Kerb: Wirebars, three months £925, 24, 25, 26, 27, 28.

TIN—Firmer owing to the weakness of sterling. Forward metal opened around £6,900 and touched £6,970 before closing the late kerb at £6,950. Turnover 965 tonnes.

TIN	a.m. Official	+ or —	p.m. Unofficial	+ or —
High Grade	£	£	£	£
Cash	6970-5	+75	6965-75	+47.5
3 months	6960-80	+70	6960-80	+52.5
Settlem't	6975	+75	—	......
Standard				
Cash	6970-5	+75	6965-75	+52.5
3 months	6960-5	+70	6960-5	+45
Settlem't	6975	+75	—	......
Straits. E.	$1993	—4	—	......
New York	—	......		......

Morning: Standard, cash £6,980, 65, 70, three months £6,950, 60, 70, 75, 60, 65. Kerb: Standard, three months £6,960. Afternoon: Standard, cash £6,965, three months £6,950, 60, 70, 80, 70, 60, 65, 60. Kerb: Standard, three months £6,960, 70, 65, 60, 50.

LEAD—Lower following an unexpected rise in stocks. After trading around £523 on the early pre-market forward metal fell away on the stocks news to touch the day's low of £516. However, short covering prompted a minor rally which left the price at £520.5 on the late kerb. Turnover 4,300 tonnes.

Morning: Cash £513, three months £721, 20, 18, 19, 18, 17, 16, 17, 18. Kerb: Three months £519. Afternoon: Three months £521, 20, 19, 17, 15.5, 16, 17. Kerb: Three months £518, 19, 18.5, 19, 20, 21.

LEAD	a.m. Official	+ or —	p.m. Unoffici'l	+ or —
	£	£	£	£
Cash	514.5-5	—8.75	513-4	—6
3 months	518-9	—11	516.5-7	—7.75
S'ment	515	—10	—	......
U.S. Spot.	—	......	*55	......

ZINC—Edged higher owing to trade buying and the fall in the pound. Forward material held steady throughout the day and closed at £344.5 on the late kerb. Turnover 3,050 tonnes.

ZINC	a.m. Official	+ or —	p.m. Unoffici'l	+ or —
	£	£	£	£
Cash	334-.5	+4.75	333.5-4	+5.25
3 months	343-4	+4	343.5-4	+5.25
S'ment	334.5	+4.5	—	......
Prim w'st	—	......	*35-7	......

Morning: Three months £344, 43, 44, 42, 43, 44. Kerb: Cash £334. Afternoon: Three months £344, 43, 44. Kerb: Three months £344, 45, 44.5.

ALUMINIUM—Higher in quiet trading with the market dominated by currency considerations. Forward metal rose from £734 to touch £741 before closing the late kerb at £736. Turnover 3,400 tonnes.

Alumin'm	a.m. Official	+ or —	p.m. Unoffici'l	+ or —
	£	£	£	£
Spot	742-3	+5.5	740-1	+5
3 months	756-7	+6	754-5	+7

Morning: Three months £741, 40, 38, 37, 38, 35, 37. Afternoon: Three months £736, 38. Kerb: Three months £735, 36.

NICKEL—Gained ground with other metals owing to the fall in sterling. Forward metal touched the day's high of £2,740 prior to closing the late kerb at £2,725. Turnover 666 tonnes.

NICKEL	a.m. Official	+ or —	p.m. Unoffici'l	+ or —
Spot	2630-40	+50	2645-55	+66
3 months	2704-5	+49.5	2715-20	+62.5

Morning: Three months £2,720, 15, 05. Kerb: Three months £2,705. Afternoon: Three months £2,705, 10, 30, 20. Kerb: Three months £2,725.

SILVER

Silver was fixed 32.15p an ounce higher for spot delivery in the London bullion market yesterday at 628.45. U.S. cent equivalents of the fixing levels were: spot 1,340c, up 40.0c; three-month 1,370.0c, up 40.2c; six-month 1,385.1c, up 43.9c; and 12-month 1,409.1c, up 39.8c. The metal opened at 616½-625½ (1,330-1,350c) and closed at 637½-642½p (1,385-1,380c).

SILVER per troy oz.	Bullion fixing price	+ or —	L.M.E. close	+ or —
Spot	628.65p	+32.3	640.20p	+45.7
3 months	646.10p	+33.8	657.00p	+44.2
6 months	655.80p	+35.0	—	......
12months	672.60p	+34.7	—	......

LME—Turnover 320 (238) lots of 10,000 ozs. Morning: Three months 644, 44.5, 45, 44, 650, 49, 47, 46, 45.5, 45, 44.5, 45, 45.5, 43.5, 43, 42. Kerb: Three months 643, 42. Afternoon: Three months 653, 54, 55, 54, 54.5, 54, 58. Kerb: Three months 657.5, 57, 57.5, 58, 60, 61, 62, 63, 65, 66.

GRAINS

IMPORTED—Wheat: CWRS No 1 13½ per cent unquoted. U.S. Dark Northern Spring No 2 14 per cent Sept. 109.15, ex-Gulf ports, Sept. 101.90, Oct. 102.15, Nov. 13.15 ex-Lakes, transhipment east coast. U.S. Hard Winter 13½ per cent Oct. 103.15, Nov. 104.90 transhipment east coast. EEC unquoted.

Maize: U.S./French Sept. 110.50, Oct. 108.75, Nov. 109.75 transhipment east coast. S. African White unquoted. S. African Yellow Sept./Oct. 82.50 nominal.

Barley: English Feed fob Oct. 93.00, Oct./Dec. 95.00, Jan./March 101/101.75 as to quantity. Sorghum, east coast U.S./Argentine unquoted.

Oats: Scandinavian feed unquoted.

HGCA—Locational ex-farm spot prices. Other milling wheat: Eastern 92.20, N. East 92.00. Feed barley: Eastern 88.30, E. Midlands 88.80, N. East 86.70. Scotland 83.70. The UK Monetary Coefficient for the week beginning Monday September 14 is expected to remain unchanged.

	WHEAT		BARLEY	
M'nth	Yesterd'ys close	+ or —	Yesterdys close	+ or —
Sept.	93.70	+0.25	90.85	+0.35
Nov.	96.45	+0.30	93.45	+0.25
Jan.	100.40	+0.15	97.40	+0.20
Mar.	103.50	+0.25	100.40	+0.15
May	106.60	+0.25	103.40	+0.15

Business done—Wheat: Sept. 93.80-93.40, Nov. 96.45-96.15, Jan. 100.40-100.15, March 103.50-103.30, May 106.60-105.40. Sales 116 lots of 100 tonnes. Barley: Sept. 90.90-90.55, Nov. 93.45-93.25, Jan. 97.40-97.15, March 100.40-100.30, May 103.40-103.30. Sales 162 lots of 100 tonnes.

COCOA

Futures opened unchanged despite a weaker close in New York on Friday. The decline of Sterling accounting for the markets firmness. Producers remained withdrawn and a dull physical market was reacted in a low volume on the terminal market. As Sterling recovered later in the day the market moved lower but the long liquidation was not sustained and after a decline of £30 from last night's levels values recovered to close in the middle of the day's range, reported Gill and Duffus.

COCOA	Yesterd'ys Close	+ or —	Business Done
Sept.	1456-1460	—18.5	1467-1450
Dec.	1527-1529	—15.5	1542-1508
March	1559-1560	—8.0	1566-1540
May	1579-1580	—10.5	1588-1565
July	1595-1598	—12.5	1605-1587
Sep	1615-1620	—12.0	1608-1602
Dec.	1650-1655	—8.0	1647

Sales: 2,601 (2,924) lots of 10 tonnes.

International Cocoa Organisation (U.S. cents per pound): Daily price Sept. 14 149.20 (149.59); indicator price Sept. 17; 15-day average 144.74 (144.54); 22-day average 144.71 (144.43).

COFFEE

Robustas opened £15-£20 higher prompted by further strength in the "C" Contract market and early currency weakness, reported Drexel Burnham Lambert. For most of the day value uctuated in a narrow range but in fairly good volume with business well matched by trade on both sides of a steady market. Prices finished with gains of up to £19 on the day.

COFFEE	Yesterdays Close £ per tonne	+ or —	Business Done
September	1877-1878	+19.0	1880-1870
November	1919-1920	+18.5	1925-1897
January	1929-1930	+16.0	1932-1818
March	1884-1885	+16.0	1890-1875
May	1859-1870	+14.0	1875-1855
July	1855-1858	+15.0	—
Sept.	1845-1855	+15.0	—

Sales: 6,113 (7,123) lots of 5 tonnes.

ICS indicator prices for September 14 (cents per pound): Other Mild Arabicas 206.83 (206.17). Robustas ICA 1976 190.00 (189.50). ICA 1968 190.25 (189.75). Unwashed Arabicas 210.00 (209.00). Comp. daily ICA 1968 204.89 (204.11).

RUBBER

The London physical market opened steadier, and was fair throughout the day closing on an easier note. Lewis and Peat reported a Malaysian godown price of 280 (278) cents a kg (buyer, October).

No. 1 R.S.S.	Yesterd'ys Close	Previous Close	Business Done
Oct.	61.80-61.95	60.39-61.90	62.75-61.95
Nov.	62.60-63.00	62.00-62.25	63.75-63.35
Oct-Dec	62.60-63.00	62.25-62.35	64.10-62.60
Jan-Mar	65.55-65.80	65.50-65.55	67.15-65.60
Apr.-Jne	68.25-68.30	68.05-68.10	69.70-68.65
Jly-Sept	70.50-70.70	70.30-70.50	71.90-71.95
Oct-Dec	72.95-73.00	72.70-72.90	73.85-73.00
Jan-Mar	75.35-75.40	75.20-75.30	75.95-75.40
Apr-Jne	77.70-77.90	77.60-77.70	77.75

Sales: 808 (459) at 15 tonnes, 12 at 5 tonnes.

Physical closing prices (buyer) were: Spot 61.25p (61.00p). Oct. 64.00p (same), Nov. 64.75p (same).

WOOL FUTURES

LONDON GREASY—Close (in order buyer, seller only). Oct. 218.0, 33.0; Dec. 218.0, 38.0; March/May/July/Oct./Dec. and March 228.0, 38.0. NEW ZEALAND CROSSBREDS—Close (in order buyer, seller only). Oct. 178.0, 83.0; Dec. 180.0, 85.0; March 181.0, 91.0; May/July/Oct./Dec. and March 181.0, 93.0.

BRADFORD WOOL—Prices are moving higher as Sterling falls, and stocks are adequate in Bradford to enable topmakers ...

PRICE CHANGES

In tonnes unless otherwise stated.

	Sept. 17 1979	+ or —	Month ago
Metals			
Aluminium	£710/50	......	£710/50
Free Mkt (cs)	$1568/1588	—8.5	$1549/60
Copper			
Cash w'bar	£929.5	+26.5	£895.5
3 mths	£924.5	+23.75	£889.25
Cash Cathode	£906.5	+35	£859
3 mths	£907.5	+29	£872.5
Gold troy oz.	$353.625	+8.75	$298.625
Lead cash	£513.5	—6	£528
3 mths	£516.75	—7.75	£526.5
Nickel	£2959	......	£2,854
Freemkt(cif (lb)	250/280c	—5	250/268c
Platin'mtr'y oz	£172.50	......	£155.5
Free mkt.	£199.60	+2.6	£176.10
Quicksil'ver	$300/310	......	$275/295
Silver troy oz.	628.65p	+32.35	413.55p
3 months	646.10p	+33.80	425.15p
Tin Cash	£6,970	+52.5	£6,565
3 mths.	£6,952.5	+45	£6,527.5
Tungsten	$139.98	......	$143.12
Wolfrm 22.04 cif	$144/148	+0.5	$142/147
Zinc cash	£333.25	+3.25	£288.5
3 months	£343.75	+3.25	£299.25
Producers	$780	......	$780
Oils			
Coconut (Phil).	$940.0w	—15	$1,015
Groundnut	‡	......	‡
Linseed Crude.	£430	......	£400
Palm Malayan.	$642.5s	......	$650.0
Seeds			
Copra Philip.	$625y	......	$685
Soyabean(U.S.)	$301.15r	—5.7	$312.5
Grains			
Barley Futures	£93.45	+0.25	£91.05
Maize			
French No3AM	£110.50	+0.5	£107.75
Wheat			
No. 1 Red Spg.	‡	......	‡
No2HardWint.	£103.15	+0.75	£101.0
Eng. Milling†	£95.0	......	£97.0

AMERICAN MARKETS

NEW YORK, Sept. 17.

THE QUEST for the ultimate highs in precious metals is under way. Both gold and silver were limit up. September silver, not subject to limit trading, was up $1.00 per ounce on (desperate) short-covering. The inflationary psychology in the precious metals moved into other markets such as copper, grains and soyabeans, where nobody wanted to be short despite the absence of any bullish news. Copper benefitted also from the General Motors labour contract settlement. Heavy trade buying led to higher cotton and sugar prices. The livestock complex was sharply lower to limit down on reports of cash market weakness. Coffee was mixed in a featureless trade, Heinold reported.

Potatoes (round whites)—Nov. 61.0 (61.5), March 69.7 (72.2), April 87.0, May 96.0. Sales 935.

¶Silver—Sept. 1423.0-1427.0 (1335.0), Oct. 1371.0 (1311.0), Nov. 1380.5, Dec. 1390.0, Jan. 1395.5, March 1405.5, May 1416.5, July 1426.3, Sept. 1435.9, Dec. 1449.4, Jan. 1454.8, March 1464.4, May 1474.0, July 1483.6. Handy and Harman bullion spot 1390.0 (1315.0).

Tin—697.00-720.00 asked (700.00-725.00).

CHICAGO, Sept. 17.

Lard—Chicago loose 25.50 (25.25). New York prime steam 27.00 (26.75).

Live Cattle—Oct. 69.12 (70.62-69.12), Dec. 71.15 (72.65-71.15), Jan. 71.17, Feb. 70.90, April 71.20-71.17, June 71.85-71.90, Aug. 71.00-71.10, Oct. 70.00, Dec. 71.00. Sales 9,956.

Live Hogs—Oct. 37.60-37.65 (38.17-37.57), Dec. 38.75-38.65 (39.35-38.70), Feb. 41.30-41.40, April 40.50-40.42, June 43.70-43.80, July 44.20-44.10, Aug. 42.40, Oct. 41.92, Dec. 43.00. Sales 7,068.

‡‡Maize—Sept. 277-277¾ (276½), Dec. 277¾-278½ (277¾), March 290¾-290½, May 298, July 302, Sept. 303.

Pork Bellies—Feb. 46.20-46.10 (47.90-46.15), March 46.40-46.45 (48.27-46.42), May 47.40, July 48.60-48.55, Aug. 47.40. Sales 5,215.

Silver—Sept. 1424.0-1420.0 (1332.0), Oct. 1347.2 (1307.2), Nov. 1359.2, Dec. 1371.5, Feb. 1385.0, April 1394.5, June 1403.6, Aug. 1412.9, Oct. 1422.4, Dec. 1432.1, Feb. 1442.0, April 1452.1, June 1462.4, Aug. 1472.9, Oct. 1483.6, Dec. 1494.5, Feb. 155.6, April 1516.9, June 1528.4, Aug. 1540.1.

‡Soyabeans—Sept. 720-720½ (716), Nov. 724-722 (718), Jan. 737-739, March 754-753½, May 764-763½, July 771½, Aug. 773-772½, Sept. 761-762.

PARIS September 17.

Cocoa (FFr per 100 kilos).—Sept 1300-1350 Dec 1375-1378, March 1396-1405 May 1411, July 1416, Sept. 1420. Sales at call 7.

Sugar (FFr per 100 kilos).—Oct. expired, Nov. 1160-1180 Dec. 1195-1196, March 1243-1245 May 1275-1280, July 1293-1298, August 1320-1325, Oct. 1330-1360, Nov. 1340-1374. Sales at call 7.

DOW JONES

Dow Jones	Sept. 14	Sept. 13	Month ago	Year ago
Spot	405.73	407.21	401.49	380.65
F'tur's	416.91	413.30	411.75	378.65

(Average 1924-25-26=100)

REUTERS

Sept. 17	Sept. 14	M'nth ago	Year ago
1620.7	1611.0	1672.4	1484.2

(Base: September 18, 1931=100)

... considerably higher. After a hesitant start, bright and good medium East African teas came in for keen competition and put on several pence. Lesser mediums moved 1p to 3p lower, but clean plain teas stayed fully firm. Quotations for the week: Quality 140p per kilo (130p); Medium 103p (98p); Plain 62p (62p).

GRIMSBY FISH—Supply fair and demand good. Prices at ship's side ...

COMPANY NOTICES

READY MIXED CONCRETE LIMITED

7¼% Bonds 1987 FF 80,000,000

Notice is hereby given to Bondholders of the above loan that the amount redeemable on October 25, 1979, i.e. FF 4,000,000 was bought in the market.

Amount outstanding: FF 57,600,000.—

Trustee: The Law Debenture Corporation Limited

Principal Paying Agent: Kredietbank S.A. Luxembourgeoise

Luxembourg, September 18, 1979.

M.I.M. HOLDINGS LIMITED

160 Ann Street, Brisbane, Queensland 4000, Australia

Notice is hereby given that the register of Members of the Company will be closed from October 12th to October 18th 1979, both dates inclusive, for the purpose of preparing dividend lists and bonus share issue entitlements.

Transfers will be received up to 5 p.m. Thursday October 11th 1979 at the above address.

By Order of the Board
R. B. Byers
Secretary
September 13th 1979

NOTICE OF MEETING. The Annual General Meeting of members of The Cremation Society of Great Britain will be held at Woodcut House, Ashford Road (A2020), Hollingbourne, Maidstone, Kent, ME17 1XH, on Thursday, 11th October, 1979, at 12 noon. Annual Report free, on application to registered office of the Society.

DAVIES & METCALFE LTD.

NOTICE IS HEREBY GIVEN that the TRANSFER BOOKS of the Company will be CLOSED from 24th September, 1979 to 27th September, 1979, both dates inclusive.

By Order of the Board.
R. ALLEN, Secretary.

Injector Works,
Romiley,
Cheshire.

PRUDENTIAL CORPORATION LIMITED

NOTICE IS HEREBY GIVEN that the TRANSFER BOOKS and REGISTER of MEMBERS of the above Company will be CLOSED from the 26 October 1979 to the 3 November 1979 both dates inclusive.

By Order of the Board of Directors.
R. E. ARTUS, P. E. MOODY,
Joint Secretaries.

142 Holborn Bars,
London EC1N 2NH.
13 September 1979.

Government securities weaken afresh as sterling falls
Equities again subdued by engineering troubles

Account Dealing Dates
Option

*First Dealings	Declarations	Last Dealings	Account Day
Aug. 28	Sep. 6	Sep. 7	Sep. 17
Sep. 10	Sep. 20	Sep. 21	Oct. 1
Sep. 24	Oct. 4	Oct. 5	Oct. 15
Oct. 8	Oct. 18	Oct. 19	Oct. 29

* "New time" dealings may take place from 9.30 am two business days earlier.

Government stocks viewed yesterday's renewed fall in sterling with some apprehension and weakened accordingly. Fresh selling from holders nervous because of the currency situation and of suggestions that interest rates may well remain at the present crisis level for some time found the market unwilling with buyers going to ground and dealers protectively lowering quotations.

In sensitive trading conditions, attempts to recover were generally short-lived and longer-dated stocks closed at the session's worst with falls ranging to ½. At the shorter end of the market, rallying efforts were more spirited but here, too, they proved to be abortive and in trade after the official close prices had returned to around the day's lowest.

Meanwhile, equities began the second leg of the trading Account in subdued fashion with attention still focused on the engineering dispute, an influence which completely annulled the improvement in export prospects following the recent slide in sterling. Business contracted again and this in itself added to the market's current bout of uncertainty.

The usual crop of weekend Press tips failed to revive enthusiasm although Decca benefited from speculative interest whetted by newspaper comments of bid possibilities. Just before the close, leading shares began to harden on book-squaring operations in front of the August trade returns, due to be announced this afternoon, and the FT 30-share index rallied slightly to end 1.7 down at 466.0, after having shown a loss of 2.3 at 2 pm.

Isolated low-coupon British Funds resisted the general tendency as proceeds from the matured Electric 3 per cent 1979 issue were re-invested. Exchequer 3 per cent 1981 was a recipient of these funds and rose ¼ to 90½, along with Treasury 3½ per cent 1979-81, which gained ⅛ to 92⅝, and Treasury 3 per cent 1982, up ⅛ at 87½. Corporation stocks, however, followed the trend set by the main funds and closed a point down in places.

Latest developments in the Zimbabwe Rhodesia talks caused holders of Southern Rhodesian bonds to become restless and light selling brought prices down; the 2½ per cent 1965-70 fell 5 points to £85, while other losses ranged to 4 points.

Institutional demand coupled with the effects of a lower pound produced higher rates for investment currency, but after rising to 33 7-9ths per cent the premium reacted to close only ¾ higher on balance at 32½ per cent. Yesterday's SE conversion factor was 0.9175 (0.9092).

The torpidity of the equity market was reflected among Traded options where only 158 contracts were completed. This compares with 176 on Friday, and with last week's daily average of 228. Cons. Gold were relatively active with 57 deals.

Banks lower

Home banks reacted from recent firmness, small selling and lack of fresh support leaving closing falls ranging to 6. Barclays ended that much lower at 422p, while Lloyds eased 5 to 310p and Midland, 372p, and NatWest, 340p, cheapened 3 and 2 respectively. Foreign issues, however, made good progress helped by the decline of sterling. Compagnie Bancaire, £50½, and Algemene, £79, rose around 4½ points and Deutsche advanced 2½ points to £72½. Hambros lost 4 to 330p in dull merchant banks where Antony Gibbs, ahead of tomorrow's interim results, softened a penny to 49p. Hill Samuel gave up 2 to 101p and the Warrants relinquished 5 to 80p.

Insurances plotted an irregular course in thin trading. C. T. Bowring gained 3 to 129p but Willis Faber receded 2 to 223p; the latter's interim results are due today. London and Manchester declined 4 to 136p.

Breweries and kindred issues began the second half of the Account quietly with most counters tending to lower levels due to lack of attention. Irish Distillers provided an isolated firm feature, ending 3 up at 90p on currency influences.

Quiet conditions persisted in the Building sector. Among the few noteworthy movements, Crouch Group moved up 5 to 88p in response to favourable Press mention, but the warning about second-half profits left Federated Land 2 cheaper at 76p. Profit-taking after the recent good rise on the bid approach from Harrisons and Crosfield prompted a reaction of 3 to 240p in Parker Timber. Leyland Paint eased 2 to 58p awaiting Thursday's interim statement, while lower half-yearly profits left JB Holdings a shade easier at 58p.

Among Chemicals, ICI drifted off a few pence to 352p while news of two Australian acquisitions failed to help Fisons, 3 cheaper at 247p.

Cope Sportswear firm

Leading Stores drifted lower on lack of support. A firm market of late on hopes that Lonrho may make an offer for the outstanding shares, House of Fraser cheapened 2 to 154p, while Gussies "A" closed 6 lower at 396p. Ahead of tomorrow's interim figures, UDS softened a penny to 91p. Elsewhere, buyers came for Cope Sportswear and the close was 4 higher at 42p, while MFI hardened 2 to 170p in response to Press comment. For a similar reason, Home Charm were supported initially up to a 1979 high of 139p before profit-taking ensued to leave an unchanged close of 134p.

Shoes closed higher in places; Lambert Howarth attracted support and closed 5 up at 54p, while revived bid hopes helped Stylo put on a similar amount to 213p. Ward White hardened a penny to 93p; the interim results are due on Friday.

Weekend Press comment suggesting a possible bid prompted renewed demand for Decca issues, the ordinary rising 55 to 330p and the "A" 33 to 293p. Other bright spots in the Electrical sector included Automated Security which responded to favourable Press mention with a rise of 11 to 192p and Telephone Rentals, a few pence dearer at 212p for a similar reason. On the other hand, Farnell encountered fresh profit-taking and gave up 11 more to 255p, while AB Electronic lost 6 to 198p and MK Electric 4 to 238p. Among the leaders, Thorn remained overshadowed by the disappointing increase in profits for the first four months of the current year and reacted further to 423p before settling at 426p, down 7 on balance. EMI, however, firmed 3 to 91p on bid hopes.

Engineering leaders were inclined easier in subdued trading. John Brown eased 2 to 75p and falls of a like amount were marked against GKN, 286p, Hawker, 178p, and Tubes, 300p. Secondary issues followed a similar trend; Henry Sykes were lowered 5 to 60p on the sharp fall in the half-yearly profits, while scattered offerings ahead of Thursday's interim statement left Stone-Platt 4 cheaper at 72p. The rather gloomy statement on the trading outlook which accompanied the half-yearly figures prompted dullness in Ransomes Sims, down 5 at 138p. In contrast, Simon Engineering, 260p, up 3, and Laird Group, a penny dearer at 82p, responded to encouraging trading statements. Sporadic selling left Capper-Neill 4 lower at 55p and Pegler-Hattersley a similar amount down at 140p. Molins eased 3 to 125p; the half-yearly results are due tomorrow.

Quiet conditions prevailed in Foods and the leaders ended little changed on last Friday's closing levels. Rowntree Mackintosh gave up a few pence to 188p ahead of tomorrow's mid-term statement, while Associated Dairies slipped 5 at 255p. Press comment prompted early interest in Sainsbury which reached 310p before easing to close at 307p for a net loss of a penny. Although the reduced interim profits were deemed disappointing, United Biscuits held up and ended unchanged at 82p, while Tavener Rutledge, a depressed market of late following the interim results, rallied 4 to 46p. Bernard Matthews gave up 3 at 317p awaiting today's half-timer, and Associated Fisheries fell 4 at 57p.

Among lacklustre Hotels, Ladbroke, at 181p, gave up 4 of Friday's gain of 7 which stemmed from speculation about a buyer for the company's casino.

De La Rue better

Interest in the miscellaneous Industrial leaders was at a low ebb and prices generally drifted lower on lack of support. Boots gave up 5 to 189p and Turner and Newall relinquished 2 to 127p. Comment on Pilkington's £120m European acquisitions left the shares 3 down at 310p. Elsewhere, publicity given to a broker's circular helped De La Rue put on 10 to 535p, while Low and Bonar improved 3 to 178p in response to the interim results. J. F. Nash Securities added 5 to 80p as did Wade Potteries, to 61p, while Christies International appreciated 4 to 140p. ICL came on offer at 480p, down 16, while Photo-Me lost 10 to 320p and Valor dipped 5 to 72p. Still reflecting last week's disappointing interim results, Booker McConnell lost 4 more to 310p.

Black and Edgington rose 2 to 70p following the interim results. Elsewhere in Leisure issues, speculative attention was directed toward Howard and Wyndham, 3 up at 23p.

The current engineering troubles together with uncertainties over BL resulted in a continuing easier bias among Motor Components. Dowty shed 5 at 307p, while Automotive Products, 84p, and Armstrong Equipment, 57p, eased 2 apiece. Jonas Woodhead, on the other hand firmed a few pence to 104p after favourable Press comment. Elsewhere, Rolls-Royce at 70p, gave up 1½ ahead of today's interim statement, while ERF dipped 3 to 89p.

Quietly dull conditions prevailed in leading Properties with Land Securities softening a penny to 299p with the 6¼ per cent Convertible 6 points down at £192. Elsewhere, Percy Bilton gained 3 to 236p ahead of the interim results due on October 1, while Fairview Estates lost 5 more to 232p and County and District declined 4 to 200p.

BP improve

Week-end Press comment suggesting that the Government sell-off may be smaller than originally expected caused firmness in British Petroleum which closed 10 dearer at 1190p. Shell hardened a few pence in sympathy, but secondary issues succumbed to profit-taking, particularly Oil Exploration which gave up 10 to 388 awaiting the interim results due tomorrow. Siebens (UK) reacted 6 to 272p and Burmah 3 to 163p, while Tricentrol gave up 2 to 216p.

Activity in the Textile sector remained at a low ebb and the price trend was narrowly easier. Speculative favourite Sirdar fell 3 to 112p, while Press comment failed to help Montfort which closed a penny off at 77p.

Bats met support among Tobaccos and the Deferred added 3 to 288p, but Imperial eased a shade to 81p.

Western Mining good

Already firm in the wake of the National Mutual Life bid for Broken Hill South and a glut of extremely large share placements, the Australian mining markets received a further shot in the arm following the unexpected victory by the Liberals in the South Australia State elections.

Stocks with interests in the state came in for strong support, mainly from arbitrage operators. Western Mining, whose Roxby Downs copper/uranium/gold project is situated in South Australia, surged ahead with the shares finally 7 better on balance at 200p, after a 1979 high of 205p.

Among the more speculative issues, Oilmin were 16 up at 68p, after a high of 70p following news of the link-up with the Bond corporation. Swan Resources were 8 firmer at 29p, and Eagle Corporation, 5½ to the good at 23p.

Elsewhere in Australians, the coal producer Thiess Holdings rose 25 to 290p and the iron-ore miner Robe River put on 11 to 66p.

BH South were a lone weak spot, however, as profit-taking left the shares 10 cheaper at 160p.

South African Golds extended Friday's gains as the bullion price rose a further $8.75 to a record closing level of $353.625 an ounce, after an all-time peak of $354.25, in front of today's U.S. Treasury gold auction.

Trading in the shares was only moderate, however. Prices were marked up at the outset reflecting the latest surge in the bullion price but thereafter tended to hold steady.

Favourable weekend Press mention aided Marievale, 5 up at 121p, and Leslie, 3 better at a 1979 high of 97½p. The Gold Mines index rose 2.7 to 307.7—its best level since early June, while the ex-premium index, 4.2 up at 190.6, reached its highest since September 10 1975.

South African Financials were broadly firmer in line with Golds. London stocks, on the other hand, reflected the lower UK equity market. Rio Tinto-Zinc dropped 9 more to 293p in front of the half-year results which are expected tomorrow. Selection Trust, with interim figures due on Thursday, slipped 4 to 534p.

Elsewhere, Minorco hardened 2 to 237p ahead of the unchanged final dividend, while Silvermines advanced 5 to 59p following the doubled interim dividend and almost trebled profits.

LONDON TRADED OPTIONS

Option	Ex'rc'se price	Oct. Closing offer	Oct. Vol.	Jan. Closing offer	Jan. Vol.	April Closing offer	April Vol.	Equity close
BP	1200	28	10	92	—	127	—	1191p
BP	1300	4	2	46	5	76	—	"
Cons. Gold	220	28	24	35	2	46	—	246p
Cons. Gold	240	15	29	25	2	31	—	"
GEC	420	5	—	19	25	33	—	379p
Grand Met.	138	15	1	21	1	—	—	149p
Grand Met.	140	—	—	—	—	26	1	"
ICI	390	1	—	9	—	14	7	353p
Land Secs.	280	22	—	57	5	49	—	299p
Marks & Sp.	110	2	—	6½	—	8½	18	101p
Marks & Sp.	120	½	—	2½	—	5	5	"
Shell	325	15	—	26	3	—	—	338p
Totals			66		45		31	
		November		February		May		
EMI	90	7	3	11	1	15	—	88p
EMI	100	2	—	7	—	11	14	"
Totals			3		1		14	

FINANCIAL TIMES STOCK INDICES

—	Sept. 17	Sept. 14	Sept. 13	Sept. 12	Sept. 11	Sept. 10	A year ago
Government Secs.	71.94	72.43	72.73	72.73	73.01	73.11	70.56
Fixed interest	72.69	73.11	73.14	73.48	73.60	73.54	72.14
Industrial	466.0	467.7	467.6	472.1	477.4	478.0	530.6
Gold Mines	207.7	205.0	194.8	199.5	199.3	199.3	187.9
Gold Mines(Ex-$ pm)	190.6	186.4	174.6	177.0	178.8	177.4	125.5
Ord. Div. Yield	7.00	6.99	6.99	6.93	6.88	6.90	5.09
Earnings, Yld. % (full)	18.12	18.11	18.10	17.94	17.80	16.15	14.44
P/E Ratio (net) (*)	6.76	6.76	6.77	6.85	6.90	7.88	9.18
Total bargains	16,511	14,235	14,467	16,549	16,960	15,493	—
Equity turnover £m	—	72.11	67.67	79.43	88.55	63.39	64.48
Equity bargains total	—	10,739	11,411	12,252	13,369	11,962	19,424

10 am 466.7. 11 am 466.1. Noon 465.6. 1 pm 465.4. 2 pm 465.4. 3 pm 465.5.
Latest Index 01-246 8026.
*Nil = 6.51.

Base 100 Govt. Secs. 15/10/26. Fixed Int. 1928. Industrial Ord. 1/7/35. Gold Mines 2/9/55. Ex-$ premium index started June, 1972. SE Activity July-Dec. 1942.

HIGHS AND LOWS

—	1979 High	1979 Low	Since Compilat'n High	Since Compilat'n Low
Govt. Secs.	75.91 (4/5)	64.64 (8/2)	127.4 (9/1/35)	49.18 (3/1/75)
Fixed Int.	77.76 (5/5)	65.03 (15/2)	150.4 (28/11/47)	50.55 (3/1/75)
Ind. Ord.	558.6 (4/5)	446.1 (12/2)	558.6 (4/5/79)	49.4 (26/6/40)
Gold Mines	208.4 (6/6)	129.9 (17/4)	442.3 (22/5/75)	43.5 (26/10/71)
Gold Mines Ex $pm)	196.4 (14/9)	95.2 (12/1)	337.1 (3/4/74)	54.3 (25/6/75)

S.E. ACTIVITY

	Sept. 17	Sept. 14
—Daily		
Gilt Edged	136.7	102.1
Industrials	125.2	109.4
Speculative	45.6	30.3
Totals	80.2	74.0
5-d'y Av'r'ge		
Gilt Edged	112.0	108.7
Industrials	151.8	134.4
Speculative	34.5	34.1
Totals	84.6	85.6

ACTIVE STOCKS

Stock	Denomination	No. of marks	Closing price (p)	Change on day	1979 high	1979 low
Thorn Electrical	25p	10	426	−7	482	334
BP	£1	9	1,190	+10	1,296	882
GEC	25p	8	380	−1	456	311
Hepworth Ceramic 'New'	Nil/pd.	8	4½pm	—	7pm	4½pm
Beecham	25p	7	143	−1	189	130
Burmah Oil	£1	7	163	−3	168	82
Cons. Gold Fields	25p	7	246	+2	268	178
Marks & Spencer	25p	7	102	—	134	83
Shell Transport	25p	7	338	+2	402	278
BAT Inds.	25p	6	293	+4	362	255
Midland Bank	£1	6	372	−3	455	340
RTZ	25p	6	293	−9	363	226
EMI	50p	5	91	+3	144	82
ICI	£1	5	352	−2	415	314
Tate & Lyle	£1	5	141	—	188	127

OPTIONS

DEALING DATES

First Dealings	Last Dealings	Last Declaration	For Settlement
Sep. 3	Sep. 14	Dec. 6	Dec. 17
Sep. 17	Sep. 28	Dec. 20	Jan. 7
Oct. 1	Oct. 12	Jan. 10	Jan. 21

For rate indications see end of Share Information Service

Money was given for the call in Debenhams, Spillers, Yorkshire Chemicals, R. P. Martin, Attock Oil, Aurora, Lonrho, Baker Perkins, Town and City, Gough Cooper, Stylo, McCleery L'Amie, Allebone, Jentique, Century Oil, BPC, Cons. Gold Fields, and KCA. No puts were reported, while doubles were completed in Cons. Gold and EMI.

RISES AND FALLS YESTERDAY

	Up	Down	Same
British Funds	7	78	1
Corpns. Dom. and Foreign Bonds	1	36	28
Industrials	177	339	888
Financial and Prop.	113	74	320
Oils	9	15	15
Plantations	12	2	14
Mines	89	15	44
Others	76	15	58
Totals	484	574	1,370

APPOINTMENTS

ICI Plastics deputy chairman

Mr. D. W. S. Beynon, head of the policy groups department of IMPERIAL CHEMICAL INDUSTRIES at Millbank, has been appointed a deputy chairman of ICI Plastics Division from October 1. He succeeds Mr. T. O. Hutchison, who took over the chairmanship of the division on September 1. In January, 1977, Mr. Beynon replaced Mr. Hutchison as head of policy group department when Mr. Hutchison left Millbank to become a deputy chairman of Plastics Division.

★

Mr. M. R. Ashford has been appointed a director and general manager of INNSWORTH METALS, a Dowty Group Aerospace and Defence Division company.

★

Mr. Brian Richman has been appointed to the board of DEBENHAMS. He joined the company in 1976 and is responsible for the buying of all non-textile merchandise within the department stores division.

★

Mr. R. Innes Vann has been appointed to the Board of BOND STREET FABRICS. Mr. R. Parsons has retired from the Board.

★

Mr. T. D. O'Hearn has been elected executive vice-president, international, of the INTERPUBLIC GROUP OF COMPANIES and Mr. C. K. Kroeber has become a senior vice-president.

★

Mrs. V. Davenport has been appointed a director of DAVENPORT KNITWEAR.

★

Mr. J. R. Naish and Mr. J. K. Carson have ceased to be directors of CAIRD (DUNDEE).

★

On the acquisition of Brentnall Beard and Co., Mr. E. B. Beard, formerly chairman and Mr. A. Cashmore, who was managing director, have been appointed to the board of Hogg Robinson (UK) part of the HOGG ROBINSON GROUP. Mr. E. W. Bellinger, who held the positions of chairman and managing director of Brentnall Beard (Life and Pensions), has become a member of the board of Hogg Robinson (Benefit Consultants).

★

Mr. D. A. Howard, managing director of the rugs and furnishings division, and Mr. D. W. Mills, managing director of the Marks and Spencer account, have joined the board of E. FOGARTY AND CO. in addition to Mr. A. H. Holmes, who has been made financial director and continues as secretary.

★

Dr. A. K. Vakil is to join the Manufacturers Hanover Group and will be appointed an executive director of MANUFACTURERS HANOVER LIMITED. During the past four years Dr. Vakil has been working with the Bank of Portugal and the Portuguese Ministry of Planning and Finance. Mr. Arturo C-F Mathieu has joined Manufacturers Hanover and will become an executive director. He was previously with Chrysler in the UK. Mr. John E. McCloskey, assistant vice-president, has been installed as Manufacturers Hanover Trust Company's representative in the Paris office at 20 Rue de la Ville-L'Eveque.

★

Mr. Norman Wilson, managing director of EFG (New Lands), a subsidiary of the Economic Forestry Group, has been elected national chairman of the BRITISH ASSOCIATION OF LANDSCAPE INDUSTRIES.

Mr. H. Ross has been appointed a director of LEOPOLD JOSEPH AND SONS from October 1, and Mr J. Titmuss will become an associate director. Mr. N. H. T. Bennett is retiring from the Board on that date.

★

Mr. Keith Eden has been appointed sales director of GOLDEN WONDER. He joined the company as national sales manager in November 1976 and was appointed general sales manager, and a member of the Board of Management, in September 1978.

★

To co-ordinate Seagram corporate policy within the UK, the board of SEAGRAM DISTILLERS LIMITED has been enlarged to represent all Seagram United Kingdom interests and senior management from the U.S. and Canada. Mr. Melvin Griffin, Mr. Robin Lane, Mr. Ivan Straker and Mr. Iain Tennant have joined the board and Mr. Tennant has become chairman. There will be no alteration in the existing management reporting structure.

★

Mr. Michael Beard has been appointed director of public affairs at PERKINS ENGINES, succeeding Mr. Peter Collins who has joined Massey-Ferguson, the parent company, in Toronto, Canada. Mr. Beard joins Perkins from Triplex Safety Glass.

★

Mr Patrick D. Sinclair has been appointed marketing and business development manager of the BRITISH LINEN BANK. He was previously manager of the bank's Glasgow office.

★

Mr. J. Buckley, Mr. F. Polkey and Mr. J. F. Maclean have been appointed directors of JOHN SMEDLEY, of Matlock, Derbyshire. Mr. Buckley becomes director of management services and Mr. Polkey personnel director. Mr. Maclean, who has been made a non-executive director, is at present on the headquarters staff at Carpets International in Kidderminster.

★

AMALGAMATED METAL CORPORATION has appointed Mr. T. G. Lock as divisional managing director, industrial division, responsible to the group chief executive.

★

Mr. Mike Dawson has been appointed production director of INTERNATIONAL PAINT at Felling-on-Tyne.

Plea for better caravan sites

CARAVAN PARK owners were urged yesterday to plough more of their profits back into improving facilities and landscaping.

Mr. Michael Montague, chairman of the English Tourist Board, told caravan manufacturers and site owners in Ferndown, Dorset, that the popularity of caravanning had been one of the most striking post-war trends in England's tourism with £240m being spent on caravan holidays last year.

Prior visit

MR JAMES PRIOR, Secretary of State for Employment, will visit Merseyside today to review the region's unemployment problems with civic leaders, industrial and commercial spokesman and trade union officials. After visiting local factories Mr. Prior will lunch with the Merseyside Chamber of Commerce and Industry.

New hospital at Northampton

PLANS FOR a £1½m private independent hospital in Northampton were completed yesterday, and building work is expected to start this year.

The hospital for 30 patients was the idea of local residents and medical consultants, who believe there is an increased demand for private medical care. The hospital will be run as a non-profit-making organisation.

Grandparents charter begins

The "Grannies Charter" that gives grandparents the right to apply to magistrates' courts for access to their grandchildren came into force yesterday.

The charter will apply in cases where a custody order has been made in guardianship proceedings. It will not apply in cases where the marriage of the parents is still in being.

NEW HIGHS AND LOWS FOR 1979

The following securities quoted in the Share Information Service yesterday attained new Highs and Lows for 1979.

NEW HIGHS (52)

AMERICANS (4)
Fluor. Corp. — Rockwell Int.
G.A.T.X. — Zapata Corp.

CANADIANS (4)
Bow Valley — Hawker Sid. Can.
Can. Pacific — Hudsons Bay Oil Gas

BUILDINGS (3)
Crouch Group — Parker Timber
Finlan (J.)

CHEMICALS (1)
Brent Chemicals

STORES (2)
Home Charm — Wearwell

ELECTRICALS (2)
Telephone Rentals — Wholesale Fittings

ENGINEERING (2)
Brasway — Tex Abrasives

INDUSTRIALS (4)
Crosby House — Tom Hldgs.
De La Rue — Howard Tenens

LEISURE (1)
Zetters

NEWSPAPERS (1)
News Int.

PROPERTY (3)
Estates Prop. Inv. — Prop. Hldgs. & Inv.
Marler Estates

SHOES (1)
Allebone

TRUSTS (3)
Govett European — West of England
Scottish Cities A

OILS (3)
Ranger Oil — Woodside
Ultramar 7pc Conv.

RUBBERS (1)
Rightwise

MINES (18)
Bracken — President Steyn
Grootvlei — St. Helena
Kinross — Welkom
Leslie — Johannesburg Cons.
S. African Land — Falcon
Winkelhaak — Eagle Corp.
F.S. Saaiplaas — Hampton Areas
Harmony — Oilmin N.L.
President Brand — Western Mining

NEW LOWS (34)

CORPORATION LOANS (1)
Burnley 13pc 1987

CHEMICALS (1)
Novo Inds. A/S B

ELECTRICALS (2)
Berec — Jones Stroud

ENGINEERING (17)
Anderson Strthclyd. — Lane (P.)
Arrow Hldgs. — Lloyd (F. H.)
Baker Perkins — Northern Eng'g
Brockhouse — Serck
Brooke Tool — Spirax-Sarco
Capper-Neill — Sykes (H.)
CompAir — Triplex Foundries
Glynwed — Tube Invs.
Hopkinsons

HOTELS (1)
Swan Ryan Intl.

INDUSTRIALS (4)
Bridon — Martin-Black
Dobson Park — Photo-Me Intl.

LEISURE (2)
Norton & Wright — Westward TV

MOTORS (2)
E.R.F. — Assoc. Engineering

NEWSPAPERS (1)
Marshall Cavendish

SHIPPING (1)
Mersey Docks Units

TEXTILES (2)
Caird (Dundee) — Illingworth Morris A

RECENT ISSUES

EQUITIES

Issue Price p	Amount Paid Up	Latest Renunc. Date	1979 High	1979 Low	Stock	Closing Price p	+ or −	Div. or Amount	Times Covered	Gross Yield	P.E. Ratio
¶¶	F.P.	24/8	75	60	Arrow Chemicals	72	—	b2.0	2.2	4.0	15.6
¶¶	F.P.	—	90	80	Barlow Hldgs.	87	−1	T2.6	1.1	4.3	30.5
160	F.P.	[illegible]	[illegible]	[illegible]	Mercantile House	160	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	Metroy Dist.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	St. George Assets 10p	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	F.P.	[illegible]	200	165	Seltrust A. Ord.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FIXED INTEREST STOCKS

Issue Price £	Amount Paid Up	Latest Renunc. Date	1979 High	1979 Low	Stock	Closing Price £	+ or −
¶91	F.P.	21/9	87	84	Aurora 8¼% Conv. Cum. Pref.	84	[illegible]
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	Bradford Prop. 10¼% Cum. Pref.	[illegible]	[illegible]
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	Eastbourne Waterworks 8% Red. Pref.	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Essex Water 8% Red. Pref. 1984	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Lonrho 9½% Red. Mort. Deb. 87/92	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Do. 13½% Red. Mort. Deb.	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Do. 13½% Red. Mort. Deb.	[illegible]	[illegible]
97	[illegible]	[illegible]	[illegible]	[illegible]	Scot. Agricultural Sec. 13% Deb. 97-99	[illegible]	[illegible]
100p	F.P.	[illegible]	[illegible]	[illegible]	Stonehill 10¼% Cum. Pref.	[illegible]	[illegible]

"RIGHTS" OFFERS

Issue Price p	Amount Paid Up	Latest Renunc. Date	1979 High	1979 Low	Stock	Closing Price p	+ or −
14	F.P.	[illegible]	[illegible]	[illegible]	Abwood Machine Tools	[illegible]	[illegible]
110	F.P.	[illegible]	[illegible]	[illegible]	Bank Leumi	[illegible]	[illegible]
A$2	Nil	[illegible]	[illegible]	[illegible]	Bank of New South Wales	[illegible]	[illegible]
30	Nil	[illegible]	[illegible]	[illegible]	Barlow	[illegible]	[illegible]
125	Nil	[illegible]	[illegible]	[illegible]	Estates Property Inv.	[illegible]	[illegible]
R1.20	Nil	[illegible]	[illegible]	[illegible]	F.U.G.L.	[illegible]	[illegible]
115	F.P.	[illegible]	[illegible]	[illegible]	Hay's Wharf	[illegible]	[illegible]
95	Nil	[illegible]	[illegible]	[illegible]	Hepworth Ceramic	[illegible]	[illegible]
30	F.P.	[illegible]	[illegible]	[illegible]	Lonrho	[illegible]	[illegible]
110	F.P.	[illegible]	[illegible]	[illegible]	Lotrust	[illegible]	[illegible]
115	F.P.	[illegible]	[illegible]	[illegible]	Macarthys Pharm.	[illegible]	[illegible]
40	Nil	[illegible]	[illegible]	[illegible]	Nolton	[illegible]	[illegible]
A$3	Nil	[illegible]	[illegible]	[illegible]	Peko-Wallsend	[illegible]	[illegible]
[illegible]	Nil	[illegible]	[illegible]	[illegible]	Seltrust	[illegible]	[illegible]
145	F.P.	[illegible]	[illegible]	[illegible]	Unitech	[illegible]	[illegible]
10	F.P.	[illegible]	[illegible]	[illegible]	Yorkgreen Invs.	[illegible]	[illegible]

Renunciation date usually last day for dealing free of stamp duty. b Figures based on prospectus estimate. g Assumed dividend and yield. u Forecast dividend; cover based on previous year's earnings. F Dividend and yield based on prospectus or other official estimates for 1979. Q Gross. T Figures assumed. ‡ Cover allows for conversion of shares not now ranking for dividend or ranking only for restricted dividends. § Placing price to public. pt Pence unless otherwise indicated. ¶ Issued by tender. || Offered to holders of ordinary shares as a "rights." ** Issued by way of capitalisation. §§ Reintroduced. ¶¶ Issued in connection with reorganisation, merger or takeover. ||| Introduction. □ Issued to former preference holders. ■ Allotment letters (or fully-paid). ● Provisional or partly-paid allotment letters. ★ With warrants. †† Unlisted security.

FT-ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

	EQUITY GROUPS & SUB-SECTIONS (Figures in parentheses show number of stocks per section)	Mon., Sept. 17, 1979 Index No.	Day's Change %	Est. Earnings Yield % (Max.)	Gross Div. Yield % (ACT at 30%)	Est. P/E Ratio (Net)	Fri., Sept. 14 Index No.	Thurs., Sept. 13 Index No.	Wed., Sept. 12 Index No.	Tues., Sept. 11 Index No.	Year ago (approx.) Index No.
1	CAPITAL GOODS (172)	242.45	−0.6	17.72	5.93	7.24	243.85	244.98	247.05	249.82	255.66
2	Building Materials (27)	234.01	−0.3	17.27	5.85	7.50	234.68	236.75	236.69	237.47	221.95
3	Contracting, Construction (28)	389.07	−0.6	23.52	5.74	5.30	391.26	392.86	394.82	394.40	414.65
4	Electricals (15)	619.79	−0.5	13.12	3.75	10.19	622.82	628.45	635.45	644.74	577.38
5	Engineering Contractors (12)	335.97	−0.5	21.28	7.20	5.88	337.80	338.73	335.11	347.04	384.53
6	Mechanical Engineering (74)	165.32	−1.1	20.26	7.05	6.27	167.18	167.44	169.71	172.13	203.16
8	Metals and Metal Forming (16)	159.09	−0.2	19.67	9.42	6.32	159.45	159.68	160.78	161.99	182.81
11	CONSUMER GOODS (DURABLE) (52)	234.77	−0.4	15.66	5.23	8.01	235.77	238.86	242.15	247.67	224.46
12	Lt. Electronics, Radio, TV (16)	335.87	−0.4	12.08	4.13	10.68	337.06	342.78	348.79	358.49	275.55
13	Household Goods (13)	143.99	−0.4	19.75	7.58	6.22	144.57	145.93	146.71	148.96	190.89
14	Motors and Distributors (23)	110.23	−0.6	24.27	7.60	5.00	110.92	111.32	111.97	113.18	134.42
21	CONSUMER GOODS (NON-DURABLE) (171)	237.11	−0.3	16.66	6.01	7.47	237.93	238.38	240.11	242.46	224.82
22	Breweries (14)	287.93	−0.5	15.78	5.31	7.56	289.37	289.06	291.68	294.00	238.58
23	Wines and Spirits (6)	331.83	—	16.53	5.42	7.52	331.91	333.20	333.58	337.45	297.84
24	Entertainment, Catering (17)	308.49	−0.6	16.06	6.60	8.17	310.38	310.02	314.39	319.35	281.18
25	Food Manufacturing (19)	208.68	+0.1	19.05	6.54	6.52	208.53	210.84	210.39	213.49	220.71
26	Food Retailing (15)	305.02	−0.5	13.36	4.20	9.82	306.47	307.69	309.28	312.03	235.94
32	Newspapers, Publishing (12)	426.94	−0.3	22.39	6.82	6.15	428.11	425.42	426.48	428.46	414.00
33	Packaging and Paper (15)	132.53	+0.6	22.28	8.45	5.78	131.69	130.62	132.04	131.36	152.18
34	Stores (41)	236.27	−0.8	12.50	4.41	10.48	238.29	239.56	241.50	243.67	213.82
35	Textiles (23)	155.04	−0.3	23.67	9.92	5.33	155.49	155.59	156.32	157.75	186.65
36	Tobaccos (3)	245.99	+0.4	23.17	9.04	4.87	244.97	243.38	245.94	248.32	254.09
37	Toys and Games (6)	71.23	+0.5	24.26	9.46	5.23	70.88	71.41	71.24	72.89	124.87
41	OTHER GROUPS (99)	205.33	−0.6	15.58	6.23	7.88	206.47	206.04	208.82	208.63	219.38
42	Chemicals (18)	287.35	−0.4	17.74	6.72	6.57	288.59	288.31	290.09	292.22	305.77
43	Pharmaceutical Products (7)	228.13	−0.6	11.90	5.06	10.40	229.62	227.93	228.53	230.79	288.16
44	Office Equipment (6)	120.86	−1.0	16.53	6.95	7.56	122.11	121.89	121.74	123.85	148.98
45	Shipping (10)	461.25	−0.4	11.58	6.50	11.10	463.09	462.71	463.06	465.49	440.14
46	Miscellaneous (58)	242.61	−0.6	16.08	6.18	7.97	243.95	243.79	244.71	246.79	233.57
49	INDUSTRIAL GROUP (494)	237.87	−0.5	16.60	5.98	7.54	238.96	239.55	241.29	243.92	238.50
51	Oils (6)	641.07	+0.7	17.65	7.56	6.09	636.76	634.86	639.88	637.41	514.95
59	500 SHARE INDEX	270.59	−0.3	16.78	6.26	7.24	271.38	271.71	273.65	276.00	263.36
61	FINANCIAL GROUP (116)	194.18	−0.4	—	5.46	—	195.05	193.49	193.63	196.82	176.10
62	Banks (6)	222.44	−1.0	37.13	5.75	3.44	224.92	222.85	220.47	223.81	198.71
63	Discount Houses (10)	257.98	—	—	7.12	—	257.98	257.27	259.45	259.45	218.49
64	Hire Purchase (5)	172.53	+0.2	19.23	5.03	6.66	172.12	171.40	173.51	173.61	165.85
65	Insurance (Life) (10)	162.10	−0.6	—	6.27	—	163.03	162.50	162.89	164.99	145.09
66	Insurance (Composite) (8)	127.87	−0.3	—	7.35	—	128.28	126.33	126.82	129.65	133.33
67	Insurance Brokers (10)	283.94	+0.4	17.63	6.46	8.11	282.69	277.78	278.42	288.51	352.28
68	Merchant Banks (14)	101.34	−0.9	—	5.43	—	102.30	102.55	103.89	103.84	87.87
69	Property (43)	364.53	−0.2	3.41	2.59	42.86	365.27	365.26	366.20	368.93	264.79
70	Miscellaneous (10)	123.85	−0.1	15.03	7.15	8.53	123.95	123.62	125.70	124.80	114.94
71	Investment Trusts (110)	216.23	+0.3	—	5.29	—	215.61	215.23	214.87	215.77	236.52
81	Mining Finance (4)	128.99	−1.5	15.44	5.86	7.94	130.96	128.68	131.62	133.19	132.71
91	Overseas Traders (20)	342.89	—	15.32	7.40	7.97	342.77	343.54	343.23	345.29	338.38
99	ALL-SHARE INDEX (750)	249.19	−0.3	—	6.08	—	249.90	249.73	251.14	253.41	239.57

	FIXED INTEREST PRICE INDICES British Govt.	Mon., Sept. 17	Day's change %	xd adj. today	xd adj. 1979 to date
1	Under 5 years	104.79	−0.17	—	6.66
2	5-15 years	114.15	−0.69	—	7.55
3	Over 15 years	121.61	−0.69	—	9.65
4	Irredeemables	133.22	−1.04	—	9.82
5	All stocks	113.49	−0.49	—	7.96

	FIXED INTEREST YIELDS British Govt. Av. Gross Red.		Mon., Sept. 17	Fri., Sept. 14	Year ago (approx.)
1	Low Coupons	5 years	11.16	11.14	8.99
2		15 years	11.48	11.44	11.07
3		25 years	11.16	11.14	11.54
4	Medium Coupons	5 years	12.36	12.33	11.65
5		15 years	12.44	12.33	12.07
6		25 years	12.36	12.23	12.05
7	High Coupons	5 years	12.74	12.61	11.57
8		15 years	12.88	12.82	12.58
9		25 years	12.80	12.69	12.73
10	Irredeemables		11.10	10.97	11.58

		Mon., Sept. 17 Index No.	Yield %	Fri. Sept. 14	Thurs. Sept. 13	Wed. Sept. 12	Tues. Sept. 11	Mon. Sept. 10	Fri. Sept. 7	Thurs. Sept. 6	Year ago (approx.)
15	20-yr. Red. Deb & Loans (15)	53.51	12.76	53.52	53.52	53.50	53.75	53.86	53.91	53.91	57.55
16	Investment Trust Prefs. (15)	51.85	13.09	51.46	51.47	51.72	51.50	51.60	51.53	51.53	51.87
17	Coml. and Indl. Prefs. (20)	70.85	12.67	71.19	71.29	71.29	71.53	71.28	71.28	71.28	71.91

† Redemption yield. Highs and lows record base dates and values and constituent changes are published in Saturday issues. A list of the constituents is available from the Publishers, the Financial Times, Bracken House, Cannon Street, London, EC4P 4BY, price 14p, by post 22p.

AUTHORISED UNIT TRUSTS

Abbey Unit Tst. Mngrs. (a)
72-80, Gatehouse Rd., Aylesbury 0296 5941

Abbey Gilt Int. Tst.	105.3	111.9	-0.7	3.17
Abbey Capital	37.8	40.2	-0.2	5.04
Abbey Income	64.7	47.5	-0.1	7.37
Abbey Inv. Tst. Fd.	37.8	40.2	+0.1	5.67
Abbey Gen. Tst.	49.0	52.1	-0.6	5.19
Equitas Prog. Tst.	70.6	74.5	+0.1	4.76

Allen Harvey & Ross Unit Tst. Mngrs.
45, Cornhill, London EC3V 3PB. 01-623 6314.

AHR Gilt & Prct.	97.3	102.4	.....	12.00

Allied Hambro Group (a)(g)
Hambro Hse., Hutton, Brentwood, Essex.
01-588 2851 or Brentwood (0277) 211459

Balanced Funds				
Allied 1st	72.6	77.7	-0.3	5.35
Brit. Inds. Fund	70.7	75.6	-0.4	5.37
Grth. & Inc.	41.0	43.9	-0.2	5.47
Elect. & Ind. Dev.	38.5	41.2	-0.2	5.10
Allied Capital	77.1	82.5	-0.2	4.85
Hambro Fund	118.7	127.0	-0.4	5.79
Hambro Acc. Fd.	139.7	149.5	-0.6	5.06
Income Funds				
High Yield Fd.	72.7	77.8	-0.2	8.79
High Income	69.5	74.2	-0.3	7.55
A. H. Eq. Inc.	41.2	44.1	-0.2	7.69
International Funds				
International	26.4	28.2	+0.3	2.85
Pacific Fund	37.5	40.1	+0.1	2.22
Secs. Of America	59.6	63.8	+1.1	1.97
Specialist Funds				
Smaller Co.'s Fd.	48.8	52.2	.....	3.83
2nd Smlr. Co's Fd.	59.3	63.5	+0.1	4.09
Recovery Sits.	115.0	123.1	-0.1	5.45
Met. Min. & C'dty.	48.0	51.4	+0.1	5.06
Overseas Earnings	57.9	62.0	-0.2	5.32
Exempt Funds				
Far East Exempt	44.9	46.7	+0.1	3.03
Smaller Co. Exempt	75.4	79.2	.....	4.34
U.S.A. Exempt	103.2	107.3	+1.7	3.26

Anderson Unit Trust Managers Ltd.

Friends' Provdt. Unit Tr. Mgrs.
Pixham End, Dorking. 0306 5055

Friends Prov. Uts.	49.8	53.2	-0.2	4.59
Do. Accum.	66.6	71.2	-0.3	4.59

Funds in Court*
Public Trustee, Kingsway, WC2. 01-405 4300

Capital Sept. 13	111.5	111.8	.....	4.83
Gross Inc. Sept. 13	78.4	79.6	.....	9.80
High Yield Sept. 13	87.1	89.6	.....	9.49

*Unauth. Restricted to monies under Court control.

G.T. Unit Managers Ltd.
16 Finsbury Circus, EC2M 7DD 01-628 8131

G.T. Cap. Inc.	105.7	112.4	.....	4.10
Do. Acc.	131.3	139.6	.....	4.10
G.T. Inc. Fd. Un.	168.5	179.2	.....	9.10
G.T. U.S. & Gen.	137.6	146.3	.....	2.80
G.T. Japan & Gen.	82.1	86.8	.....	3.00
Gt. Pens. Ex. Fd.	227.7	239.0	-4.7	5.20
G.T. Int'l. Fund	154.9	164.7	.....	3.10
G.T. Four Yds. Fd.	54.2	57.6	+0.4	7.80
G.T. Far East & Gen.	45.4	48.8	.....	3.40

G. & A. Trust (a) (g)
5 Rayleigh Road, Brentwood. (0277) 227300

G. & A.	36.3	38.8	-0.2	4.97

Gartmore Fund Managers (a)(g)
2 St. Mary Axe. EC3A 8BP 01-623 6114
Dealing only: 01-623 5766/5806

American Tst.	26.7	28.6	+0.5	1.76
British Tst. (Acc.)	65.9	70.9	-0.3	3.10
Commodity Share	31.7	34.1	+0.2	3.21
Extraincome Tst.	24.4	26.2	.....	9.42
Far East Trust	30.9	33.1	.....	1.08
High Income Tst.	58.7	63.2	.....	9.57
Income Fund	77.2	83.0	-0.3	7.22
Ins. Agencies	£14.32	15.27	-0.01	4.15
Intl. Exempt Fd.	95.2	102.9	+0.1	7.08
Intl. Tst. (Acc.)	32.6	35.1	+0.3	1.42

Gibbs (Antony) Unit Tst. Mgs. Ltd. (a)
3 Frederick's Pl., Old Jewry, EC2 01-588 4111

Extra Income	29.8	32.4	.....	9.60
Income	43.0	46.8	.....	8.80

James Finlay Unit Trust Mngt. Ltd.
10-14, West Nile Street, Glasgow. 041-204 1321

J. Finlay Internat'l	24.8	26.7	.....	3.48
Accum. Units	29.8	32.0	.....	3.48
J. Finlay High Income	37.2	40.0	.....	8.41
J. Finlay Euro.Fin.	25.8	27.7	.....	4.55
Accum. Units	30.9	33.2	.....	4.55
J. Finlay Fd. In. Tst.	30.5	32.8	.....	4.45
Accum. Units	36.1	38.8	.....	4.45

Prices on Sept. 12. Next dealing Sept. 19.

Ebbington Unit Mgt. Ltd. (a)
64, London Wall, EC2M 5NQ. 01-628 5181

American	51.2	54.8	+1.6	1.92
Capital Tst.	53.2	56.4	-0.3	4.68
Do. Accum.	51.2	54.3	-0.2	—
Income Tst.	119.2	126.6	.....	7.56
Int. Growth Fd.	128.4	136.4	.....	2.17
Do. Accum.	134.2	142.6	.....	2.17

Do. Accum.	69.7	75.2	-0.5	9.00
Equity Exempt*	115.0	121.3	.....	5.50
Do. Accum.*	115.0	121.3	.....	5.50
Japan & Pacific	35.4	38.3	+0.8	1.55
Do. Accum.	35.8	38.7	.....	1.55

*Prices at Sept. 14. Next dealing Sept. 21.

Minster Fund Managers Ltd.
Minster Hse., Arthur St., EC4R 9BH 01-623 1050

Minster Sept. 10	39.6	41.6	.....	6.05
Exempt August 31	105.0	109.0	.....	6.15

MLA Unit Trust Mngmnt. Ltd.
Old Queen Street, SW1A 9JG. 01-222 8177

MLA Units	56.3	59.2	.....	3.58

Murray Johnstone U.T. Mgmt. (a)
163, Hope Street, Glasgow, G2 2UH. 041-221 5521

MJ European	68.2	72.6	.....	3.14

Dealing Day Friday.

NOTES

Prices do not include $ premium, except where indicated ♦, and are in pence unless otherwise indicated. Yields % (shown in last column) allow for all buying expenses. a Offered prices include all expenses. b Today's prices. c Yield based on offer price. d Estimated. g Today's opening price. h Distribution free of UK taxes. p Periodic premium insurance plans. s Single premium insurance. x Offered price includes all expenses except agent's commission. y Offered price includes all expenses if bought through managers. z Previous day's price. ♥ Net of tax on realised capital gains unless indicated by ф. ¶ Guernsey gross. # Suspended. ♦ Yield before Jersey tax. † Ex-subdivision. ‡‡ Only available to charitable bodies.

INSURANCE & PROPERTY FUNDS

OFFSHORE & O'SEAS FUNDS

Alexander Fund
37, rue Notre-Dame, Luxembourg.

Alexander Fund		$US8.75	.....	—

Net asset value September 4.

Allen Harvey & Ross Inv. Mgt. (C.I.)
1 Charing Cross, St. Helier, Jsy., C.I. 0534-73741

AHR Gilt Edg. Fd.	£12.20	12.14	.....	11.76

Arbuthnot Securities (C.I.) Limited
P.O. Box 284, St. Helier, Jersey. 0534 76077

Cap. Tst. (Jersey)	124.0	128.0	-1.0	7.82

Next dealing Oct. 1.

Gov't Secs. Tst.	88.5	92.0	.....	13.86

Next dealing date September 24.

East & Intl. Tst. (CI)	104	111	.....	3.38

Next dealing September 20.

Australian Selection Fund NV
Market Opportunities, c/o Irish Young & Outhwaite, 127 Kent St., Sydney

US$1 Shares		$US1.48	.....	—

Net asset value November 24.

Bank of America International S.A.
35 Boulevard Royal, Luxembourg G.D.

Wldinvest Income	$US109.39	109.95	.....	8.41

Prices at Sept. 13. Next sub. day Sept. 19.

Banque Bruxelles Lambert
2, Rue De la Regence B 1000 Brussels

Renta Fund	59.99	61.84	.....	8.18

Barbican Managers (Jersey) Ltd.
P.O. Box 63, St. Helier, Jersey 0534 74806

Barb. Int. Fund	89.6	94.7	.....	5.00

Barclays Unicorn International
1, Charing Cross, St. Helier, Jersey. 0534 73741

Overseas Income	45.8	48.2	.....	11.70
Unidollar Trust	$US12.07	12.69	.....	1.700
Unibond Trust	$US98.13	99.10	.....	9.00

1, Thomas St., Douglas, Isle of Man. 0624 4856

Keyser Ullmann Ltd.
25, Milk Street, EC2V 8JE. 01-606 7070

Fonselex	Fr1,377	1,510	+8	2.30
Bondselex	Fr117.05	122.90	.....	2.40
Central Assets	£151.09	151.15	+0.17	—

King & Shaxson Mngrs.
1, Charing Cross, St. Helier, Jersey. (0534) 73741
Valley Hse., St. Peter Port, Gnsy. (0481) 24706
1 Thomas Street, Douglas, I.O.M. (0624) 4856

Gilt Fund (Jersey)	9.49	9.53	.....	11.75
Gilt Trust (I.o.M.)	103.8	106.5	-2.5	11.75
Gilt Fnd. Guernsey	9.60	9.65	.....	11.75
Intl. Govt. Secs. Tst.				
First Sterling	£21.59	21.72	.....	—
First Intl.	$US235.54	239.20	.....	—

Kleinwort Benson Limited
20, Fenchurch St., EC3. 01-623 8000

Eurinvest		LF1,155	.....	4.16
Guernsey Inc.	68.3	72.5	.....	4.75
Do. Accum.	86.8	92.1	.....	4.78
KB Far East Fd.		$US14.26	.....	2.10
KB Gilt Fund	£10.88	10.94	.....	11.32
KB Int. Bd. Fd. Inc.		$US103.29	.....	8.20
KB Int. Bd. Fd. Acc.		$US106.64	.....	
KB Intl. Fund		$US13.24	.....	2.11
KB Japan Fund		$US32.23	.....	0.93
K.B. U.S. Gwth. Fd.		$US15.15	.....	1.44
Signet Bermuda		$US5.01	.....	1.78

Lloyds Bk. (C.I.) U/T Mgrs.
P.O. Box 195, St. Helier, Jersey. 0534 27561

Lloyds Tst. O'seas	54.4	57.3	.....	2.75

Next dealing September 17.

Lloyds Trust Gilt	£10.18	10.17	.....	11.53

Next dealing date September 19.

Lloyds Bank International, Geneva
P.O. Box 438, 1211 Geneve 11 (Switzerland)

Lloyds Int. Growth	SF364.00	389.50	.....	1.10
Lloyds Int. Income	SF294.5	306.0	.....	5.20

M & G Group
Three Quays, Tower Hill EC3R 6BQ. 01-626 4588

FT SHARE INFORMATION SERVICE

BRITISH FUNDS

"Shorts" (Lives up to Five Years)

1979 High	1979 Low	Stock	Price £	+ or −	Yield Int.	Yield Red.
100¼	54⅝	Treasury 10½pc '79‡‡	99⅞	+⅛	10.55	13.50
98⅞	94½	Electric 3½pc '76-79	98⅞	+⅛	3.55	13.85
99⅝	95⅞	Treasury 9pc 1980‡‡	98⅛	......	9.73	13.33
99⅜	95⅝	Treasury 9½pc '80‡‡	97⅝	−⅛	9.73	13.49
97	92¾	Treasury 3½pc '77-80	94¼	+¼	3.71	12.01
97⅜	92⅞	Funding 5¼pc '78-80‡‡	95¼	+¼	5.51	12.40
103⅜	99⅝	Exchequer 13pc 1980‡‡	99⅞	−⅛	13.01	12.98
102⅛	96⅞	Treasury 11½pc 1981‡‡	98⅜	−¼	11.68	12.76
93⅛	88⅞	Treasury 3½pc 1979-81	92⅝	+¼	3.77	9.57
99⅞	92⅝	Treasury 9¾pc 1981‡‡	96⅛xd	−¼	10.14	12.66
96¾	89½	Exch. 8¼pc 1981	93¼	−¼	8.84	12.64
98⅞	91¼	Exch. 9½pc 1981	94⅞	−¼	10.01	12.60
91¼	84¼	Exch. 3pc 1981	90¼	+½	3.32	8.59
98⅞	96	Treas. Variable '81§§	97⅞	−⅛	14.25	15.21
104⅞	97⅞	Exch. 12¾pc 1981‡‡	100⅛	−⅛	12.74	12.64
96⅞	88	Treas. 8½pc '80-82‡‡	92⅛	−¼	9.22	12.42
89½	82	Treasury 3pc '82‡‡	87½	+⅛	3.42	8.86
108⅛	100⅝	Treasury 14pc '82‡‡	103⅛xd	−⅛	13.58	12.54
97¼	94⅜	Treas. Variable '82§§	96⅛	−⅛	14.46	15.64
95¼	85⅛	Treasury 8¼pc '82	91	−⅛	9.06	12.10
97¼	86½	Exch. 9¼pc 1982	92xd	−⅛	10.05	12.51
95⅞	84⅝	Exch. 8¾pc 1983	91	−⅛	9.61	12.09
86⅛	77¾	Exch 3pc '83	82⅞	+⅛	3.61	8.90
104⅞	93⅛	Treasury 12pc 1983‡‡	98⅜xd	−⅛	12.19	12.59
95	93½	Treas. Variable '83§§	94	−⅛	14.79	16.08
97¼	84½	Treasury 9¼pc '83	91⅞	−⅛	10.08	12.03
98⅞	85½	Exch. 10pc 1983	92⅛	−⅛	10.84	12.40
89½	78¾	Funding 5½pc '82-84‡‡	84½	−⅛	6.50	9.98
97⅞	95½	Exch. 11¼pc '84●	95½	−⅛	11.78	12.61
77¼	76⅛	Exch. 3pc 1984	77⅛	+⅛	3.89	9.04

Five to Fifteen Years

1979 High	1979 Low	Stock	Price £	+ or −	Yield Int.	Yield Red.
101¼	97¼	Treasury 12pc 1984	97⅞xd	−⅛	12.24	12.54
110	93¼	Exch. 12¼pc 1985	102⅞	−¼	12.42	12.54
95	80	Treasury 8½pc '84-86‡‡	90¾	−½	9.53	10.78
112⅛	97¼	Exch. 13¼pc 1987	104½	−⅛	12.94	12.71
84⅞	72½	Funding 6½pc '85-87‡‡	83¼	−⅛	8.04	10.18
88⅞	73½	Treasury 7¾pc '85-88‡‡	84⅛	−⅛	9.27	10.76
70⅞	58⅝	Transport 3pc '78-88	64⅞	−½	4.67	8.96
39⅞	38⅞	Treas 11¾pc '89 £40pd●	38⅞	−½	12.19	12.55
73	61⅛	Treasury 5pc '86-89	68⅛xd	−½	7.29	10.04

Over Fifteen Years

Undated

INTERNATIONAL BANK

CORPORATION LOANS

COMMONWEALTH & AFRICAN LOANS

LOANS

Public Board and Ind.

Financial

86½	77½	ICFC 5½pc Deb. '80-82	82xd	−1	6.62	12.10
85	71½	Do. 6¼pc Db. '81-84	79	−1	8.15	12.50
99	84½	Do. 10½pc Uns.Ln. '86	93½	−½	11.50	12.50
99	84½	Do. 11pc Uns.Ln. '88	94	......	11.99	12.50
101½	84	Do. 11¾pc Uns.Ln. '90	97	......	12.43	12.70
72½	57	Do. 7¼pc ADeb. '89-92	66½	......	11.30	13.00
69	53½	Do. 7¼pc A Db. '91-94	63½xd	......	11.41	13.00
81½	64½	Do. 9pc 'A' '91-94	74xd	−½	12.16	13.00
78½	62½	Do. 8⅞pc Ln. '92-97	71½	−1½	12.65	13.10
102	95½	Do. 12½pc Uns. Ln. 1992	97xd	−½	12.88	13.00

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U.S. $ & DM prices exclude inv. $ premium

AMERICANS

S.E. List Premium 9% (based on $US2.1422 per £)
Conversion factor 0.9175 (0.9092)

CANADIANS

S.E. List Premium 9% (based on $2.4871 per £)

BANKS AND HIRE PURCHASE

41	29	Corinthian 10p	37	......	1.05	5.9	4.1	4.3
£24¾	£15	Cred. France F75	£18½	+1⅛	Q9.87%	—	3.5	—
16	12	Dawes (G. R.)	13	......	—	—	—	—
£121	£64	Deutsche Bank DM50	£72¼	+2½	Q28.12%	—	4.7	—
90	62	F. C. Finance	62	......	2.2	4.9	5.1	5.7
8¼	5¼	First Nat. 10p	5¾	......	—	—	—	0.4
4	2	Do. Wrts. 75-83	2¼	......	—	—	—	—
266	178	Gerrard Natnl.	264	......	9.12	—	4.9	—
62	39	Gibbs (A.)	49	−1	2.2	—	6.4	—
270	217	Gillett Bros. £1	221	......	†16.95	—	11.0	—

BANKS & HP—Continued

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GOLDS EX-$ PREMIUM

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NOTES

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"Recent Issues" and "Rights" Page 28

This service is available to every Company dealt in on Stock Exchanges throughout the United Kingdom for a fee of £500 per annum for each security

REGIONAL MARKETS

The following is a selection of London quotations of shares previously listed only in regional markets. Prices of Irish issues, most of which are not officially listed in London, are as quoted on the Irish exchange.

Albany Inv. 20p	26	......	Sindall (Wm.)	170	......
Bertam	21	......	**IRISH**		
Bdg'wtr. Est. 50p	420xd	......	Conv. 9% '80/82	£86¼	+¼
Clover Croft	28	......	Nat. 9¾% 84/89	£73¾	+⅝
Craig & Rose £1	£11½	......	Fin. 13% 97/02	£82	+¾
Dyson (R. A.) A	24	......	Alliance Gas	70	......
Ellis & McHdy	180	......	Arnott	330	......
Fife Forge	50	......	Carroll (P.J.)	57xc	......
Finlay Pkg. 5p	19½	......	Clondalkin	82	......
Graig Ship. £1	390	......	Concrete Prods.	87	......
Higsons Brew	70	−2	Helton (Hldgs.)	40	+2
Holt (Jos) 25p	255	......	Ins. Corp.	190	......
I.O.M. Stm. £1	142	......	Irish Ropes	70	......
Pearce (C. H.)	285	......	Jacob	35	......
Peel Mills	30	......	T.M.G.	145	......
Sheff. Refrshmt	105	......	Unidare	85	......

OPTIONS
3-month Call Rates

Industrials		I.C.I.	24	Tube Invest.	30
A. Brew	9	"Imps"	2	Unilever	55
BOC Intl.	6	I.C.L.	55	U.D.T.	5
B.S.R.	7	Inveresk	7	Utd. Drapery	10
Babcock	28	KCA	5	Vickers	18
Barclays Bank	32	Ladbroke	22	Woolworths	7½
Beecham	52	Legal & Gen.	14		
Blue Circle	18	Lex Service	11	**Property**	
Boots	18	Lloyds Bank	25	Brit. Land	7½
Bowaters	18	"Lofs"	5	Cap. Counties	9
B.A.T.	28	London Brick	7	Land Secs.	25
Brown (J.)	50	Lonrho	8	MEPC	17
Burton 'A'	26	Lucas Inds.	25	Peachey	13
Cadburys	7	"Mams"	18	Samuel Props.	14
Courtaulds	10	Mrks. & Spncr	11	Town & City	2¼
Debenhams	8	Midland Bank	30		
Distillers	21	N.E.I.	14	**Oils**	
Dunlop	6½	Nat. West. Bank	28	Brit. Petroleum	100
Eagle Star	14	Do. Warrants	15	Burmah Oil	13
E.M.I.	12	P & O Dfd.	10	Charterhall	5
Gen. Accident	21	Plessey	10	Premier	5
Gen. Electric	35	R.H.M.	5	Shell	25
Glaxo	50	Rank Org.	25	Ultramar	25
Grand Met.	14	Reed Intnl.	18		
G.U.S. 'A'	30	Sears	5½	**Mines**	
Guardian	24	Spillers	4½		
G.K.N.	28	Tesco	7	Charter Cons.	16
Hawker Sidd	26	Thorn	35	Cons. Gold	20
House of Fraser	18	Trust Houses	17	Rio T. Zinc	27

A selection of Options traded is given on the London Stock Exchange Report page

FINANCIAL TIMES

Tuesday September 18 1979

No need to modify EMS, say Ministers

BY GUY DE JONQUIERES, COMMON MARKET CORRESPONDENT, IN BRUSSELS

EEC FINANCE Ministers *decided yesterday that the* European Monetary System was functioning satisfactorily and required *no technical* modifications.

They agreed, as a result, to *end early the formal review* of the metsysh chwiaheaiol... ... the system which had been *scheduled to take place* six months after it was launched on March 13 this year. z

The speed with which the ministers reached this conclusion, after only a few minutes discussion, surprised observers in Brusels. Yesterday's meeting had previously been intended merely to allow for an interim assessment of the system, pending a f[illegible] scale review next mo[illegible]

[illegible] decision appears to concern that any prolonged discussion of the *mechanics* of the EMS, even if it did not involve a shift in the exchange rates of *participating* currencies, could further unsettle foreign exchange markets.

According to M. Rene Monory, the French Economics Minister, yesterday's outcome reflected a general view at the meeting of the "Big Five" Finance Ministers in Paris last weekend. The meeting felt that the economies of the world's major industrial countries were proceeding satisfactorily towards convergence.

He said the ministers had noted that the payments of all the major industrialised countries were moving back into balance, and that there was no reason for any upheavals on the foreign exchange markets.

He denied that there was any danger of an interest rate "war" breaking out between the *world's major economies.*

All the participants at the weekend meeting had expressed *concern about rising inflation* and had agreed that the best way to fight it was through tight *monetary policies.*

In spite of the squeeze on interest rates by the U.S. Federal Reserve Board, M. Monory forecast that the current U.S. recession would be brief.

Sir Geoffrey Howe, Chancellor of the Exchequer, said after yesterday's meeting in Brussels that the decision to end the EMS review early would not affect the Government's plans to examine the possibility of joining the system.

[illegible] studies Scottish site

[illegible] OV[illegible]ON AND RAY DAFTER

[illegible]L, a major U.S.-[illegible] group, is con[illegible]arty Firth in East [illegible] a possible site for an ethylene plant using gas from the North Sea as a feedstock.

The company is believed to have been approached by Cromarty Petroleum, which is owned by the Daniel K. Ludwig organisation and already has planning permission to build an oil refinery at a Cromarty site it owns.

Cromarty Petroleum is thought to be seeking a joint venture on the scheme. It is said to have offered its existing site to Dow in return for an interest in any ethylene plant that may be built there.

Dow said yesterday that although it had "no specific plans" for building an ethylene plant at Cromarty, it had been looking at various opportunities for using North Sea oil and gas as petrochemical feedstocks. The group is anxious to have access to its own supplies of materials such as ethylene—a basic petrochemical used to make a wide variety of products including plastics—rather than having to buy them in from other chemical companies.

Another company interested in Cromarty is Highland Hydrocarbons, a British company set up just over a year ago by a group of Scottish businessmen. Its chairman is Sir John Toothill, former main board director of Ferranti in Edinburgh. The group is thought to be interested in ensuring that there is a UK interest in any petrochemicals development at Cromarty.

It is thought that Highland Hydrocarbons does not yet have a site at Cromarty but it is understood to have had discussions with several chemical companies which might be interested in buying ethylene if a plant were built.

Industry reports suggest that one of these may be Hoechst, the German-based chemicals giant. Hoechst, which is probably the world's largest buyer of ethylene, said yesterday that it "would be interested in any source of reasonably priced ethylene." It stressed that it was "not committed" to buying ethylene from any future plant at Cromarty but said that "like any other major we would be interested in any development there."

The German-based group would not confirm that it had had discussions with Highland Hydrocarbons but admitted that it "talked to companies like that."

World scale plants usually have a capacity of 500,000 tonnes a year and would cost around £400m. But there is at present considerable over-capacity in ethylene in Europe. However, a smaller plant of between 250,000 tonnes and 300,000 tonnes might be built first to be followed by a second if demand increased.

Continued from Page 1

Sterling slide

the near future; a decision is, moreover, some time off.

The unsettled British labour scene has not helped, and the result has bene that some of the speculative inflows of the early sumer have been withdrawn and private-sector capital has been switched overseas, notably to repay foreign currency *loans*, following the easing of the exchange controls.

The authorities do not appear worried *about* the consequent fall in the rate especially as some officials—and many *industrialists—were concerned about* the impact of the earlier rise in the pound on the competitive *position of British goods.*

There is a general commitment to free floating and a belief that longer-term pressures, such as North Sea oil, will underpin the rate.

However, the Government's tight monetary policy rests on the desirability of a strong pound relative to its previous trend, largely to help contain inflation. Consequently, if the pound fell too far for a long time the authorities might take action, not necessarily through intervention and possibly even involving a further tightening of credit.

Apart from sterling, the foreign exchange markets were yesterday quieter than at the end of last week with a slight *easing of strains within the* EMS.

Otherwise, the main activity *was again in the gold and silver* markets. There was further strong demand for gold which rose \$8¾ an ounce to an all-time closing high of \$353¾ after reaching \$354¼ in the early afternoon.

The spot price of silver moved in parallel to gold and rose 32.35p to a new fixing peak of 628.65p a troy ounce before closing at over 640p.

Continued from Page 1

Telephones

while telex rentals will go up from between 25 and 50 per cent.

● Coin box charges will go up from 2p to 5p, but the time allowed for local calls will increase from two to three minutes, while time for trunk calls will also be extended in proportion.

The Post Office expects to gain £78m in the current financial year from the second stage increases, with additional £414m expected in 1980/81. Taken *together, the corporation* expects to benefit by £92m in 1979/80 and £495m in 1980/81 *from all the increases.*

The total is 12.5 per cent of the telecommunications business, current revenues, which compares with a 60 per cent rise in the retail price index since October 1975, when major increases were last made.

The corporation has also faced increases in pay and other costs of some £300m in 1979/80 and a further £500m in 1980/81.

One-man Tube trains pact

BY PHILIP BASSETT AND LYNTON McLAIN

LONDON TRANSPORT has reached agreement with the three rail unions on introducing one-man train operation on two Underground lines.

London Transport said yesterday that the agreement on single-manning of manually-operated trains would reduce the number of last-minute cancellations, often caused by one of the two-man crew of driver and guard being ill.

Trains operated by one man alone will begin running on the Circle Line and the Hammersmith and City section of the Metropolitan Line early next year, though if both management and unions judge the experiment a success one-man operation should spread next to the District Line and the rest of *the Metropolitan Line*, and eventually to all.

The effect of the agreement on *staff, particularly* on promotion prospects, will be reviewed by the unions in six months.

London Transport has pressed for one-man operation since 1968. A fresh impetus toward it came this year as part of a pay award by an arbitration panel set up after the National Union of Railwaymen, the largest union involved, called an indefinite strike by its 15,000 Tube members.

Under the agreement all one-man operators receive the same rate of pay as automatic train operators on the Victoria Line, £89.42 for a 40-hour week. Tube drivers now are paid £77.71, and guards qualified as drivers £62.73.

London Transport put the cost of this payment at more than £1m a year, though it claimed this would be offset by manpower savings from one-man operation.

News Analysis, Page 6

Weather

UK TODAY

CLOUDY with rain in places becoming brighter with sunny intervals.

London, S.E., Cent., S. England
Cloudy with rain in places, sunny intervals. Max 19C (66F).

E. Anglia, Midlands
Cloudy, rain in places with brighter intervals later. Max 18C (64F).

E., N. England, North Wales
Becoming brighter and dry. Max 17C (63F).

Channel Isles
Dry at first with sunny intervals, some rain later. Max 19C (66F).

S.W. England, S. Wales
Cloudy, occasional rain or drizzle. Hill and coastal fog becoming brighter. Max 18C (64F).

Borders, Edinburgh, Dundee, Aberdeen, Moray Firth, N.E. Scotland
Scattered showers, bright or sunny intervals. Max. 15C (59F,

Outlook: Rain or showers with sunny intervals. Temperatures near normal.

WORLDWIDE

		Y'day midday °C	°F			Y'day midday °C	°F			Y'day midday °C	°F			Y'day midday °C	°F
Ajaccio	S	24	75	Cpnhgn.	R	13	55	London	S	18	64	Perth	S	19	66
Algiers	S	28	82	Corfu	S	24	75	Luxmbg.	S	18	64	Prague	S	18	64
Amsdm.	C	17	63	Dublin	C	17	63	Madrid	F	25	77	Reykjvk.	F	7	45
Bahrain	S	35	95	Dbrvnk.	S	20	68	Majorca	S	27	81	Rhodes	S	19	66
Barclna.	S	26	79	Ednbgh.	C	16	61	Malaga	S	27	81	Rio J'o	R	25	78
Beirut	S	29	84	Faro	S	24	75	Malta	F	27	81	Rome	F	26	79
Belfast	C	16	61	Florence	S	25	77	M'chstr	C	18	64	Salzbrg.	S	19	66
Belgrd.	S	17	63	Frankft.	S	16	61	Melbne.	R	8	46	Singapr.	C	28	85
Berlin	C	18	64	Funchal	S	24	75	Mex. C.	C	16	60	Stckhm.	C	11	52
Biarritz	F	22	72	Geneva	S	22	72	Milan	S	21	70	Strasbg.	S	20	68
Bmghm.	F	18	64	Gibrltr.	S	26	79	Mntreal.	S	20	68	Sydney	S	28	84
Blackpl.	F	17	63	Glasgow	C	15	59	Moscow	C	10	50	Tangier	S	24	75
Bordx.	S	25	77	G'rnsey	S	17	63	Munich	F	20	68	Tehran	S	27	82
Boulgn.	F	16	61	Helsinki	R	10	50	Nairobi	S	24	75	Tenerife	F	21	70
Bristol	F	17	63	H. Kong	C	28	84	Naples	S	24	75	Tokyo	R	23	73
Brussels	S	20	68	Innsbrk.	S	21	70	Nwcstl.	R	16	61	Toronto	S	18	64
Budpst.	F	16	61	Invrnss.	C	18	64	N. York	S	22	72	Tunis	S	28	82
B. Aires	C	10	50	I.o.Man	C	15	59	Nice	S	24	75	Valencia	S	27	81
Cairo	S	31	88	Istanbul	S	18	64	Nicosia	S	27	81	Venice	S	21	70
Cardiff	F	17	63	Jersey	S	18	64	Oporto	C	20	68	Vienna	S	19	66
Cas'b'ca	S	24	75	Jo'burg	S	21	70	Oslo	F	14	57	Warsaw	C	13	55
Cape T.	C	15	62	L. Plms.	S	23	73	Paris	S	21	70	Zurich	S	19	66
Chicago	S	22	72	Lisbon	C	22	72								
Cologne	S	19	66	Locarno	F	20	68								

C—Cloudy. F—Fair. Fg—Fog. R—Rain. S—Sunny. Sl—Sleet. Sn—Snow.

Riccardo seeks early retirement from Chrysler

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

MR. JOHN RICCARDO, chairman of Chrysler, announced in Detroit yesterday that he will ask his Board of directors to grant him instant and early retirement so as to improve the chances of the *ailing* car company securing substantial federal loan guarantees.

It is assumed he will be succeeded by Mr. Lee Iacocca, the company's president. Mr. Iacocca's contract with Chrysler, it is understood, specifically stipulates that he should take over the company in November.

Mr. Riccardo's decision to seek early retirement comes immediately after the U.S. Government had refused the company's first request for \$1.2bn in immediate and stand-by loan guarantees designed to stave off the threat of bankruptcy.

In his statement, he said that there was "no question that, even though I have actively addressed the major problems facing Chrysler, in the minds *of many I am closely associated* with the past management of a troubled company."

"It would be most unfair to the new management and to the employees of Chrysler if my continued presence as board chairman should in any way hinder the final passage of our request for federal loan guarantees," he said.

Mr. Riccardo has been company chairman for nearly four years and was, of course, a central figure in negotiations with the British Government some two years ago for financial assistance to support Chrysler's operations in the UK—facilities which, along with Chrysler's other European operations, the company subsequently sold to Peugeot-Citroen.

It is true that, as cited in his statement, Mr. Riccardo has been suffering from ill health and was *hospitalised last May* with a suspect heart condition. He was reported to have offered to retire early *a few weeks ago.*

Nevertheless, at the sam time there have been rports of discontent *both inside Chrysler* and the U.S. Government about the way in which Mr. Riccardo *has been conducting negotiations* with federal authorities.

Mr. G. William Miller, the Secretary of the Treasury, was dismissive about the inadequacy of the company's first request for aid over the weekend, both because it was felt Chrysler was asking far too much from the *Government* and because the company had not tried hard enough to generate support from other private sources.

Mr. Iacocca was hired by Chrysler as president last year after being dismissed by the Ford Motor Company. At Ford it had appeared he was being groomed ultimately to succeed Mr. Henry Ford the Second as company chairman.

At that time, Mr. Riccardo said he expected that Mr. Iacocca would take over the company in about a year—a promise for which Mr. Iacocca secred a contractual pledge.

Much of the retrenchment programme Chrysler had undertaken in the past year has been attributed to Mr. Iacocca—though it is also said that, privately, he has complained that he was not previously aware of the gravity of Chrysler's financial and management position.

What was not immediately clear yesterday was whether either the board of Chrysler or the U.S. Government had put pressure on Mr. Riccardo to step down early so as to facilitate negotiations for federal assistance—or whether Mr. Riccardo took his action voluntarily.

Chrysler told to look harder for aid—Page 4.

GKN in talks with French Unilever

BY JAMES BARTHOLOMEW

GUEST KEEN and Nettlefolds is negotiating with Unilever to buy a majority stake—possibly around 80 per cent—in Unigep, a French distributor of automotive and industrial components.

The move would be a further stage in GKN's recent series of moves into the automotive parts distribution business, giving it its first Continental involvement in this field.

Unigep, with 1978 sales of £30m, employs 750 people and has 26 outlets fairly evenly spread through France. Its profit level has not been disclosed, and there were no indications yesterday as to how much GKN was proposing to pay for its projected stake in the company.

In February GKN bought Parts Industries Corporation, which has an annual turnover of \$100m (£46.5m) and is No. 4 in the U.S. automotive parts distribution business.

In May the group made an agreed £40m bid for Sheepbridge Engineering, Derbyshire, the diesel components company which also has automotive parts distribution branches.

Last month GKN said it was talking with Armstrong Equipment about buying some of its automotive parts distribution subsidiaries.

Behind GKN's major run of equisitions in automotive parts *distribution this year is the* company's belief that, with car owners now tending to keep *their vehicles longer, and thus* needing more spare parts, it can secure considerable growth *there.*

The moves fit in with GKN's manufacturing activities, giving it more outlets for the replacement components it makes.

Unilever explained the intended sale yesterday by saying it had not been deeply committed to automotive parts distribution, and felt that the market was getting more difficult.

Unigep made more sense as part of a group specialising in the business.

Unilever may not sell its entire holding, and there are some small *shareholders in the* company.

Community to act on bearing dumping

BY HAZEL DUFFY, INDUSTRIAL CORRESPONDENT

THE EEC Commission is preparing to bring a new case of dumping against Japanese manufacturers of bearings, and is also to bring a case against East European manufacturers.

The move follows intensive *monitoring of bearing prices in* western Europe by the Federation of European Bearings *Manufacturers'* Associations, which claims that Japanese roller bearings coming into the EEC *last year were more than* 35 per cent cheaper than in the Japanese market.

In March, the European Court ruled in favour of five Japanese companies which had been the subject of an earlier EEC anti-dumping case on bearings.

The Court decided that the EEC Council of Ministers was wrong to have imposed an estimated £2.5m in levies on the companies (even though the levies were subsequently suspended), when the Japanese companies had already agreed to raise their prices by 20 per cent.

The European bearings industry has suffered from difficult trading conditions for several years, which has led to extensive rationalisation in most of the manufacturing countries.

In the Past few months there have been signs of an improvement, however, both in demand patterns and the pricing policies of the leading manufacturers.

SKF, the Swedish-based international group, recently announced an *increase* in *profit* margins on bearigs from 2.9 per cent to 3.8 per cent in the first half of this year.

FEBMA continues to argue, however, that the increase in the price of Japanese bearings in western Europe has not reflected the appreciation of the yen. It maintains that the dumping margin is even greater than in 1977 when the Commission imposed a suspended anti-dumping duty.

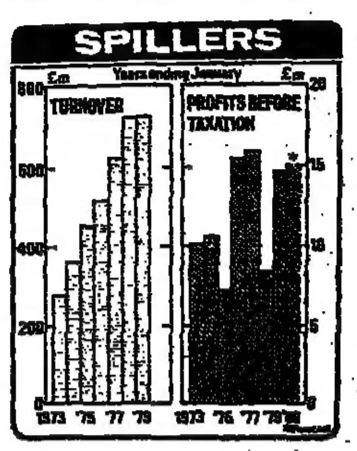
The volume of standard bearings coming from eastern Europe at prices which the industry maintains constitute dumping has increased significantly.

THE LEX COLUMN

How Fred failed to make the grade

On the eve of the last U.S. Treasury gold auction, a month ago, the gold price closed in London at \$298¾. The next day the Dresdner Bank bought virtually all the gold on offer for a cool \$217m and the gold price has not looked back since. Last night gold closed in London at \$353¾. The Swiss banks hardly dare let Dresdner embarrass them a second time.

Index fell 1.7 to 466.0



Spillers

The recent histories of Decca and Spillers underline some profoundly unsatisfactory aspects of the UK capital market. Shares in Decca, which has been in visible decline for some years, bounded ahead on *bid rumours* yesterday, and are now above the level at which they stood last *week when the grim trading* figures were announced. In a grotesque way, losses have *turned out to be "good news"* because they have increased the chances of an opportunistic takeover bid.

Spillers is already facing just such a bid. Its shareholders have stood by without comment while the group has contracted in real terms over a period of years. Without a blush, the management which substantially increased the group's exposure to the baking industry by a takeover in 1972 is able to imply that the closure of the entire baking business six years later was a tactical victory. There is no suggestion in the defence document that the problems of recent years have brought about any fundamental improvements to Spillers' organisation.

But although there is good reason to be disillusioned with Spillers, there is little sign of any enthusiasm for the Dalgety offer. Dalgety's own shareholders have been uneasy about the move, and Spillers' shares stand nearly a tenth below the value of the offer. Dalgety has expanded at a hectic pace in recent years, and although it can point to some sound achievements in the UK, it is by no means clear that it has enough surplus management talent to take on Spillers. And the bid is not startlingly generous: Spillers' shares are already on a double figure dividend yield, and would probably not fall all that far in the absence of an offer.

So shareholders are now in a position of having to decide between uninspiring alternatives. Will Fred the flour grader plus the inertia of 35,000 shareholders (only about 30 per cent of which are institutional) win the day? It seems a pretty odd way to decide the date of an important business enterprise.

At least there need be no great hurry to decide by the first closing day on Friday. Dalgety is not going to give up easily especially with its advisers, Lazards, on the hook. It might even be persuaded to improve its terms a little. It will be worth waiting, too, to see if Dalgety's own shareholders have anything to say on the subject at their special meeting next Monday. But unless Spillers can produce a more convincing defence than it has so far, in the end it will probably be best to accept.

United Biscuits

The most surprising feature of United Biscuits' interim results, which with a fall in pre-tax profits to £16.1m from £18.6m are a little on the low side, is that Sir Hector Laing, UB's chairman and the scourge of the secondary pickets, had under- rather than over-estimated the effect of the haulage strike on profits. Rather than £3m lost, with the chance of some recovery, the final net damage is about £3½m.

What seems to have happened is that the loss of production in the strikes left UB in poor shape to face the strong recovery of demand, particularly for chocolate biscuits, that came in the second quarter. The depletion of stocks goes some way towards explaining the higher tax charge and lower interest costs —UB's cash was piling up, and fixed asset spending was falling behind plans of £50m for 1979.

But even adding back this £3½m, and £0.8m for currency adjustment to the profits of Keeblers (which had a good first half) the picture is rather dull, particularly as there was a first-time contribution of £½m or so from the Pizzaland chain. UK biscuit volume was down during the period, but UB claims its market share—at least in branded biscuits—held steady despite Associated Biscuits' volume gains. The snack food side was healthy but Wimpy and the frozen food business are still contributing very little.

The second half should show a useful improvement; the company is looking to match last year's £42.2m, and perhaps expects more. The weakness in snack and chocolate biscuit sales immediately after the VAT increase has abated, and, with the Spanish business now making small profits the £1m loss in Europe in 1978 may be eliminated. But unless sterling continues to fall, the use of average exchange rates will mean a further dent in Keebler's sterling contribution.

The shares, though, are still looking to 1980 and beyond when UB should enjoy the pay-off from the heavy investments of the last few years. At 82p they yield a prospective 6 per cent and trade on 10 times fully taxed earnings.

Gilt-edged

Once again the gilt-edged market was in a nervous mood yesterday. The pound, having briefly touched \$2.16 in the morning, fell quickly to \$2.1280 before recovering to \$2.1515. Prices of long dated stock closed £¾ lower and the market badly needs some good news if interest in the stranded tap stocks is going to be revived.

The combination of rising U.S. interest rates and the worrying buoyancy of UK bank lending means that hopes of an early cut in Minimum Lending Rate are fast receding. Already there are signs that the money market yield curve is beginning to adopt a more normal shape with one year rates edging higher. Meanwhile, any punters still left in the gilt-edged market are saddled with heavy carrying costs—three month money is yielding 1 per cent more than the yield on high coupon short and long dated stock.

Today's trade figures are awaited with some trepidation by the market. The euphoria over sterling's role as a petro-currency has vanished as the market has digested the fact that far from boasting a balance of payments surplus, Britain will be in deficit this year, and probably next year as well.

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